

Barcelona's pickpocket plague

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13.03.2015

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COVER ILLUSTRATION  
BEN WISEMAN

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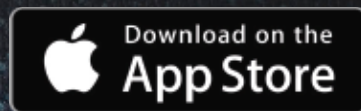
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# BIG SHOTS

**NIGERIA**

## **The Butcher captured**

The man the Chadian army calls 'The Butcher' kneels before a cache of weapons, pickup trucks and motorcycles captured from Boko Haram. He is accused of beheading or slashing the throats of five people in the name of Islam. In the fight against the bloodthirsty Islamist militants, there have so far been few victories and the Nigerian government seems at a loss to stem the unremitting tide of violence they have caused - having been responsible for the deaths of more than 13,000 people over the past five years, according to President Goodluck Jonathan.



EMMANUEL BRAUN



## BIG SHOTS

ITALY

### Viva la mama

Posed as in a traditional Italian family portrait, these models share the runway with toddlers and babies for Dolce & Gabbana's collection at Milan fashion week. The show was called "a celebration of mothers everywhere" but it was also a neat way to showcase the label's junior line, launched in 2012. Dolce & Gabbana is not the only house to experiment with child models in recent seasons; Karl Lagerfeld, who plans to launch a 'kidswear' range in 2016, has employed his godson, the five-year-old son of his model muse Brad Kroenig, to walk for Chanel.



PIETRO D'APRANO









## BIG SHOTS

### HONG KONG

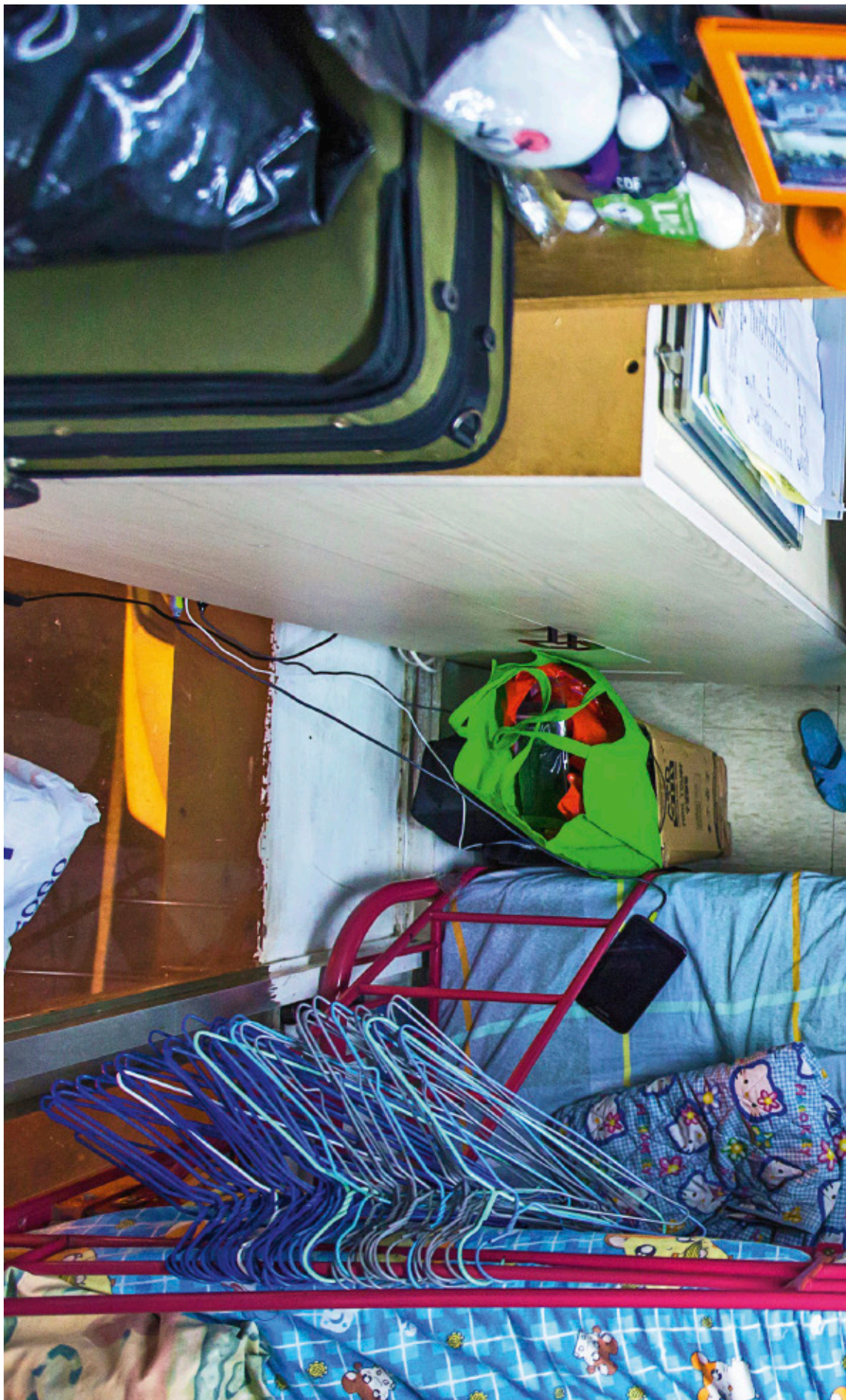
#### Close quarters

A woman and her young son live together in this Hong Kong flat measuring just 60 square foot. With areas marked out for a kitchen, office and sleeping area, ingenious use of vertical storage and clothes hangers strung on the railings of a bunk bed, this mother has made the most of every last inch of space.

But even so, it's a life of extreme restriction. Last week, Hong Kong's much-anticipated budget unveiled some measures to support low income families, in response to the mass protests of 2014, but critics say the problem of unaffordable housing will only get worse..



TYRONE SIU















## BIG SHOTS

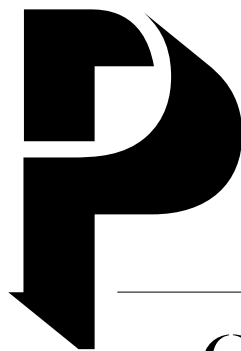
**SWEDEN**

### Into the blue

Piotr Zyla of Poland takes to the air in the men's Large Hill Ski Jumping competition in Falun, Sweden. The jump he is about to make will measure 123m, longer than the length of a football pitch, but not quite enough to put him in the top spot – Austria's Stefan Kraft will beat him by nearly 9m. Both jumps though, pale in comparison to the world record, set just a couple of weeks earlier on 15 February 2015 by the Norwegian Anders Thyli Fannemel. He may have had some natural advantage – ski jumping originated in Norway, when in 1809 lieutenant Olaf Rye, launched himself 9.5 metres into the air to impress his fellow soldiers.



MIKE HEWITT



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# P A G E O N E

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## **THE MAN IN THE LIME GREEN SWEATER: THE NEMTSOV I KNEW**

*Newsweek's former Moscow bureau chief reflects upon a surprising meeting with the murdered Russian leader*

**BORIS NEMTSOV**, the Russian opposition politician shot four times in the back and killed while walking across a Moscow bridge late on 27 February, lived in a large apartment directly across the river from the iconic domes of St Basil's Cathedral. The last time I saw Nemtsov was in that apartment, nearly five years ago. I was reporting a lengthy article on "Putin's oligarchs" – the men surrounding the president, who had become the richest and most powerful businessmen in the country. Many, like Putin, had worked for the KGB.

We had a long talk – more than an hour and a half. Nemtsov's political party was about to release a report that his researchers had put together on corruption in Putin's Russia. He had a lot to say, and was, as usual when talking to the press, ebullient. He was as handsome as ever, dressed incongruously in a bright lime green sweater and light khaki pants. I remember thinking he looked as if he had just come off a yacht

in Sag Harbor or Newport Beach. After our conversation, Nemtsov showed me around the large apartment, pointing out a few mementos from his time in government.

He had come to prominence in Russia after Boris Yeltsin's re-election in 1996. He had been a young, reformist governor in Nizhny Novgorod, about 250 miles east of Moscow, when Yeltsin sent for him to come to the capital. He was appointed a first deputy prime minister, with a powerful portfolio that included huge swathes of the Russian economy, including energy. One of his jobs – his main job, arguably – was to tame the oligarchs of that era.

Oligarch had become a term of art in Russia in the 1990s, when I was bureau chief for this magazine in Moscow. Back then, oligarch referred to the men who were able to buy valuable state-controlled companies for ludicrously low prices. The idea was to reduce the government's role in the economy, and get important industries like

**INSPIRING VOICE:**  
Boris Nemtsov  
always wanted  
a decentralised  
Russia and an end  
to incompetent  
bureaucracy

BY  
**BILL POWELL**







energy, telecommunications and autos into private hands. It was, indeed, the fundamental principle underlying the transition from communism to capitalism, as a man named Anatoly Chubais, then Yeltsin's chief economic architect, used to explain to anyone who would listen.

But there was also a political component to the tremendous transfer of wealth then under way in post-Soviet Russia. The men who benefitted from the schemes to privatise the economy – the oligarchs – in return supported Yeltsin's re-election. Yeltsin, the hero of the Russian revolution in 1991, was running against a dreary Communist hack named Gennady Zyuganov. Chubais felt he could drive a stake through the old system's heart if Yeltsin won the election, and if the resources of the newly-minted billionaires in Moscow were

“Can such a thing just happen and be done with, unattended by retribution?”

needed to do it, so be it.

Yeltsin won the election, despite the fact that late in the campaign he suffered a heart attack that was completely covered up by his palace guard. By early 1997, Chubais, who had effectively become Yeltsin's stand-in when the old man fell ill, knew things had to change. He and Nemtsov – who used to rail in those days about “bandit” capitalism – would be the pit bulls.

During his time in office Nemtsov had a reputation as more of a show horse than a work horse – one of his early initiatives was to get government officials to give up their Mercedes Benzes and ride around in cars made in Nizhny Novgorod. That reputation may have been a bit unfair. He did, after all, have a go at the oligarchs. In April 1997, he met individually with the seven most powerful of them and declared that the rules were going to change. No more rigged auctions for state assets. As David Hoffman, then the *Washington Post's* bureau chief in Moscow wrote later in his book *The Oligarchs*: “It was not all nice

talk. In fact, Nemtsov was suggesting nothing less than dismantling the system of oligarchic capitalism that had taken shape under Yeltsin, Chubais and the tycoons.”

That year, Nemtsov was Russia's rising star: young, charismatic, and apparently Yeltsin's favourite – the son he never had. The whispers soon conveyed that Yeltsin wanted him to be his successor. (Think now, in the wake of his assassination, of the irony in that.) He was gregarious and had a populist's touch with the people – the opposite of the brilliant but technocratic Chubais. Businessman George Soros, who had stayed away from investing in Russia, liked Nemtsov sufficiently well that he changed his mind.

The moment of optimism came and went quickly. Russia's oligarchs – and the government – got bogged down in a vicious fight over the privatisation of the nationwide phone company (the oligarchs having apparently not gotten Nemtsov's message that these types of deals would no longer be rigged). Then, in 1998, came the financial crisis, when Moscow had to default on its massive debt and devalue the ruble. The government was discredited, and Nemtsov gone.

The following year, an ailing and increasingly unstable Yeltsin named an obscure former KGB operative from St Petersburg, Vladimir Putin, as prime minister. Then, on New Year's Eve in 1999, as the new millennium dawned, Yeltsin resigned and Putin became acting president. Nemtsov would co-author an opinion piece in *The New York Times* that captured the sense of exhaustion the tumult of the

Yeltsin years had generated.

Like me, like the US ambassador to Moscow at the time, Jim Collins, like then-Secretary of State Madeleine Albright, like so many others, Nemtsov said that at least Putin was young, energetic and perhaps competent. “Russia could do considerably worse than have a leader with an unwavering commitment to the national interest. And it is difficult to see how we could do better,” he had said.

Nemtsov soon enough would be cast into opposition – an opposition that became less and less relevant in Russia as Putin tightened his grip and showed who he truly was. On 27 February, as he walked home around midnight across the bridge, across from the beauty that is St Basil's, he was just two days away from leading an opposition march to protest Putin's war in Ukraine, and of releasing a report that purports to show evidence of direct Russian involvement in the invasion – something the Kremlin has steadfastly denied.







**TOO OUTSPOKEN:** Nemtsov, who was first deputy prime minister under Boris Yeltsin, pictured together above in 1997, was often arrested for anti-government rallies in Moscow. His murder prompted thousands of mourners to the streets in protest

ALEXEY SAZONOV/GETTY, ANDY ADAMS/EYEVINE, YURI KADOBNOV/GETTY

As we walked around his grand apartment across from the Kremlin that late afternoon several years ago, one detail grabbed my attention: a photograph of Nemtsov with the old man. Yeltsin, once he stepped down, was rarely seen in public again. This was a shot taken at a *dacha* outside Moscow, where Yeltsin would live out his days until dying in the spring of 2007 – exactly a decade after he had plucked the young man from Nizhny Novgorod to come help him in Moscow. In the photo Yeltsin is smiling, but he is frail, his face thinner than it used to be, his thick white hair now wispy. Nemtsov smiles too, with a touch of grey around the temples, handsome as ever. You can't look at that photo and not be touched by the obvious affection between the two men, and be saddened by what might have been.

We now know what a “leader with an unwavering commitment to the national interest” can and will do. Russia's fledgling democracy effectively snuffed out; wars in the former Soviet



republics of Georgia and now Ukraine; journalists and opposition figures murdered or imprisoned. Where – and how – does this end?

In her famous account of the gulag under Stalin, *Journey Into the Whirlwind*, the author Yevgeniya Ginzburg spent 18 years in the Soviet prison system, and when she got out she wrote: “Was all this imaginable – was it really happening, could it be intended? Perhaps it was this very amazement that helped to keep me alive. I was not only a victim but an observer also. What, I kept saying to myself, will come of this? Can such things just happen and be done with, unattended by retribution?”

That's the question that hangs, right now, in front of men like Barack Obama, and David Cameron, and women like Angela Merkel – the leaders of the West, now weak and divided and distracted by lots of other very real problems: “Can such a thing just happen and be done with, unattended by retribution?”

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## UK'S CARE HOMES ARE LOSING CHILDREN IN RECORD NUMBERS

Despite a series of high-profile child abuse scandals, Britain is still losing track of its most vulnerable kids

AT ANY GIVEN time, more than 30,000 children in England are in the care of local authorities, who monitor their progress and oversee their placement in government-run children's homes or with foster-care givers or other guardians. But an analysis of the most recent government data shows that each year, local authorities lose track of around 2,000 vulnerable children in care, even as reports of human trafficking inside the country are on the rise.

The authorities try to keep track of what happens to children who officially leave the care system, logging them in categories such as children who are adopted, returned to parents or family, taken into foster care, those who have grown out of care and those deceased. But children who don't fall into these categories – for instance, those who run away or end up homeless, abducted, trafficked or worse – are lumped into a category that the UK Department for Education simply labels “other”, also known as “E8”.

An analysis of the data shared with *Newsweek* shows that, according to Education Department statistics for the year ending 31 March 2013, around 1,910 children (legally defined as under the age of 18) left the care system in England for unknown “other” reasons, including 180 babies under the age of one. In the same period in 2012,

about 2,260 children left the system for “other” reasons, including 160 babies.

According to Mike Murphy-Pyle, a spokesman for the Department for Education, local authorities are given no guidance on how they should fill out the “other” category. “It is for everything else not covered by the other categories provided,” he says. While some of the children, particularly the older ones, may have left by choice, there is increasing concern about those under 16. There were 1,220 of them in the “other” category for the year ending on 31 March 2013, and 1,420 for the same period in 2012. “We have over 1,000 children a year who just go missing, and we don't know what's happening to them,” says John Hemming, a Liberal Democrat in Parliament who provided the data to *Newsweek*. “You'd think with all the headlines over abuse of children in care, people would be all over this, but they're not. We are talking about children and babies. Why are we not doing a better job of tracking them?”

The Education Department releases limited data collected annually from local authorities across England, who must fill out what is called an “SSDA903 return”, which asks for the details on children in care as well as those who leave care. The refined figures of children missing for

BY  
**LEAH MCGRATH  
GOODMAN**  
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**YOUNG AND LOST:** John Hemming MP, above, wants a better child protection system in the UK, where a report after the Rotherham child sex abuse scandal exposed low levels of record-keeping for missing children

“Many children go missing from care but come back. No one is counting the ones that don’t come back.”

unknown “other” reasons provided by Hemming drilled further down into the data to reveal the ages and origins of the children who leave the system for unknown reasons. London showed the highest totals for children leaving care for unknown other reasons in 2013, with 370 under the age of 18.

The statistics and reporting categories can be confusing, allowing for missing children to be easily conflated with runaways, says Hemming.

“If local authorities wish to conceal a situation, they can simply put a child down as ‘leaving care for other reasons,’” he says. “And no one will ever know what happened to the child.” Bad record-keeping has been a feature of the abuse scandals. Last autumn, a review by the UK National Society for the Prevention of Cruelty to Children found that between 1979 and 1999, the Home Office had “lost or destroyed” 114 files relating to reported child abuse by high-ranking people, including senior politicians. The review came after a report last year from Rotherham, South Yorkshire, revealed that at least 1,400 minors were subjected to widespread, organised child-sex abuse from 1997 to 2013, including many who were in care.

Hemming believes that better tracking of children who leave care might have made a difference in Rotherham and another abuse case, in Rochdale. In 2012, the same year abusers were brought to justice in Rochdale over a child sex ring that went ignored for years despite victims repeatedly seeking local authorities’ help, the district did not provide any figures at all for children who left care for unknown reasons. “[This] is all about abuse of power by employees of the state,” says Hemming. “The fact that it involves the maltreatment of children for sexual gratification makes this all the worse. For the future, we need to make it harder for state employees to conceal abuses of power. More transparency and accountability are needed, as well as less secrecy.”

N

GETTY, REX

## BOTH SEXES CALLED TO ARMS AS NORWAY CONSCRIPTS GIRLS

Barrack rooms and battle drill will be shared as every 17-year-old gets his or her papers in a first for Europe and Nato

**SINCE THE BEGINNING** of this year, Commander Per-Thomas Bøe of the Norwegian Armed Forces has been working an exceptionally hectic schedule, sending out conscription letters not just to the usual 32,000-odd 17-year-old boys but to their female contemporaries as well. And Bøe has to get ready for the girls' arrival in the summer of 2016 too, which means installing more female showers and toilets around the country's military installations and figuring out exactly how they'll fit into a centuries-old male bastion. That's because what he's doing is a first for Norway, and indeed for both Europe and Nato: female conscription.

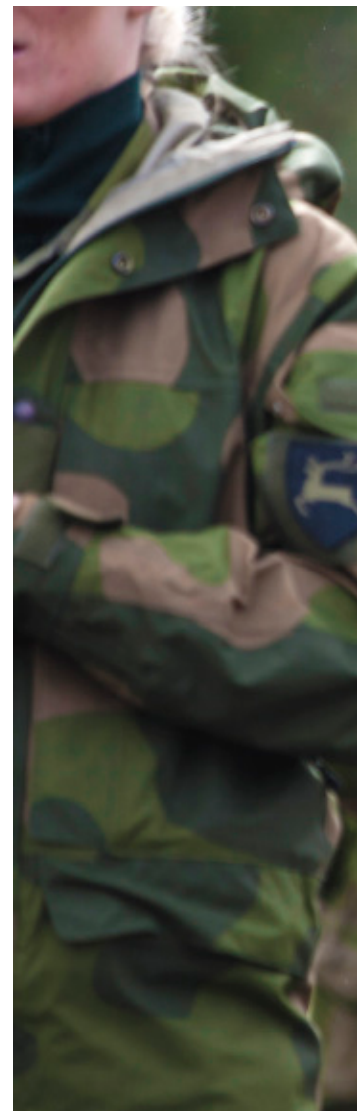
"The Scandinavian countries are very good at leading in gender equality, so it's no surprise that Norway should pioneer female conscription," says Joanne Mackowski, a researcher at the London military think tank RUSI, who specialises in gender issues. "Norway is a small country that doesn't deploy large numbers of soldiers to international conflicts, but some nation had to take the first step, so now other countries can look to Norway."

That includes looking at how Norway is logistically handling the transformation. Bøe's staff is now sending conscription letters to all 63,000 Norwegian 17-year-olds, inviting them to complete an online questionnaire. Based on the

results, the armed forces will invite 20,000 boys and girls for interviews as well as physical and psychological tests; of them, it will select 10,000 to train as soldiers. "It's all about competence," reports Bøe. "By conscripting girls we get double the number of potential soldiers, so of course we get a better selection." Among the other preparations: equipping the armed forces with enough uniforms and gear for slightly shorter soldiers, as women often are, and convincing parents and indeed the general public that conscripting girls is a good idea. If the selection board spots a particularly suited girl, it will be able to force her to perform military service, though the idea is that anybody selected will also be motivated.

Norway already has plenty of experience with female fighters, having opened the armed forces to women volunteers 35 years ago. Major General Kristin Lund, who last year was appointed the United Nations' first-ever female peacekeeping commander, was one of the first women to enlist in 1980.

Among the more recent female volunteers is 19-year-old Anette Tørresen, who serves in the elite 2nd Battalion, a unit specialised in Arctic warfare that has also been deployed to Afghanistan. On the day *Newsweek* spoke with her, Tørresen and her fellow 2nd Battalion soldiers had walked up a mountain, each carrying 40kg of



BY  
**ELISABETH BRAW**  
@elisabethbraw





**IN THE ARMY NOW:**  
Medically fit women  
aged between 19 and  
44 will be enlisted in  
the Norwegian Armed  
Forces next year

NORWEGIAN ARMED FORCES

gear and equipment, completed a day of shooting exercises there and marched down again. “I believe female conscription is a good thing, and that’s what the boys here say too,” she reports. “If the women can carry the same amount, the boys are fine having them there.”

Tørresen knows a thing or two about what her male co-fighters think: she shares a room with four of them. And when the girl conscripts arrive, they’ll sleep in the same rooms as boys just as Tørresen and the other female soldiers – 17% of Norway’s military – already do. But Bøe says he’s not worried about this nocturnal proximity: “When you have a large number of young people, of course you’ll have some problems, but things are improving. The people we take will be smart enough not to get into trouble. And they’ll be busy focusing on their tasks. After a long day’s work, it’s all about equipment maintenance and sleep.” In the US Army, female soldiers on

deployment usually curtain off their part of the tent with sheets.

In preparation for the first mixed-gender conscript class, Bøe’s team is carrying out highly innovative pilot projects. One, an all-female paratrooper unit consisting of exclusively of female soldiers, has just begun training and will be ready to receive its first conscripted women next July. Paratroopers, the Rambos of armed forces – they parachute behind enemy lines – have traditionally always been men. In another, an air force battalion has been split 50/50 along gender lines.

Though Norway plays an active role in international military missions, it’s unlikely that Norway’s female Rambos will parachute behind enemy lines any time soon. Indeed, notes Machowski, “we’ll be waiting a while to see firstly how women and society respond to the changed policy, and secondly how many women

make it from training out into combat,” she adds. Even if a Western coalition were to intervene with ground troops against, say, Islamic State, new conscripts would not be deployed.

Norway’s move illustrates an international trend towards gender-neutral armed forces. Most Western countries allow women in support functions, and women’s combat options are quickly increasing. Last month, the US Army Rangers conducted their first pre-training course open to women. Five female and 21 male soldiers successfully completed the infamously grueling course, where participants run an obstacle course, march two miles carrying heavy gear, run a two-mile course with their equipment and engage in underwater combat. The United States’ new Secretary of Defence, Ashton Carter, supports opening all military positions to women. Last year Britain lifted its ban on women serving in submarines, though British women still can’t serve in infantry combat units, which literally and figuratively do the heavy lifting in any armed forces. Countries such as Germany and Denmark, in turn, allow women to serve in any position. Apparently that’s not too popular with their male colleagues. A recent poll of male

German soldiers reveals widespread concern about their female colleagues’ abilities, with 56.6% of the male soldiers saying women are physically unsuitable for tough frontline conditions. The same poll reports that 55% of female soldiers have been sexually molested on the job.

But according to Astrid Vig, a 21-year-old professional soldier who serves as the soldiers’ representative in the Norwegian armed forces board, male soldiers don’t care whether you’re a man, woman or the man from the moon as long as you can carry your kit. In the future, space-age innovations such as DARPA’s Alpha Dog may do some of the carrying, but for now, soldiers’ physical strength remains key. And, reports Bøe, young Norwegian women’s fitness habits make them even better suited to military tasks than in the past. Indeed, given that many men serve in military support roles, armed forces of the future may see female combat soldiers attended to by male Florence Nightingales and fed by Father Courage instead of the fictional Mother Courage from Bertolt Brecht’s famous play.

Will the first mixed-gender conscript class be divided 50/50? Bøe doesn’t know. If the girls turn out to be fitter and smarter than the boys, they could end in the majority. But one thing is certain: the female paratrooper unit will remain, and though there will be plenty of women-only showers and toilets, the sleeping quarters will stay mixed. “I don’t really think about the fact that there are boys in my room,” reports Tørresen. The question now is when other countries will introduce female conscription – and whether they, too, will go for shared bedrooms and all-female parachute units.

**EQUAL RIGHTS:** Kristin Lund, below left, was the first UN-appointed female commander of peacekeeping forces. With the new bill, the ratio of men to women in the Norwegian army could be set to change



TARAL JANSEN, TORBJØRN KJOSVOLD

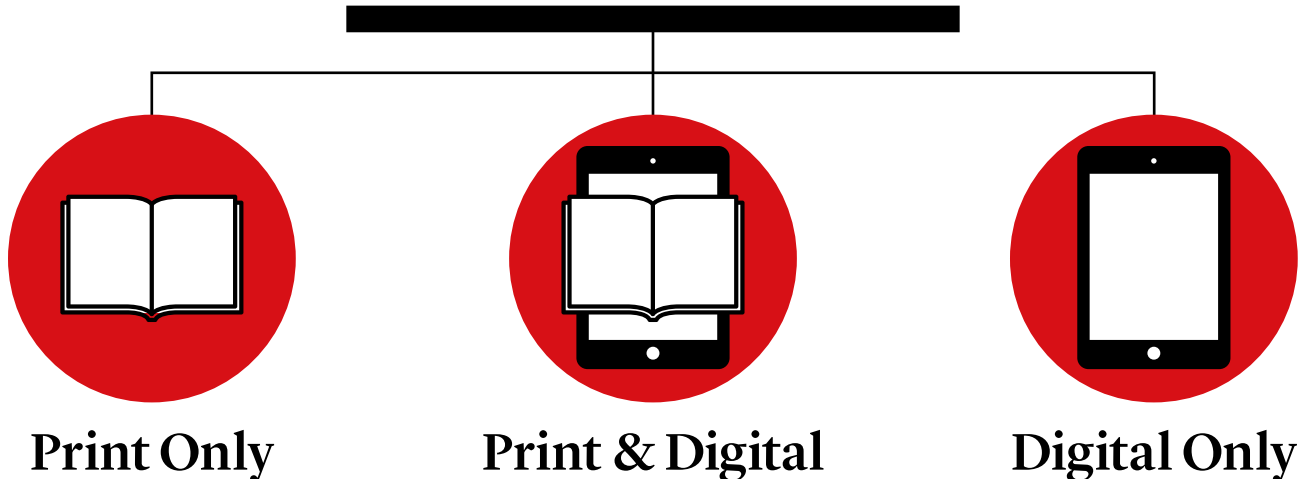


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## RISE OF ISIS THREATENS LIBYA'S CLASSICAL ARCHAEOLOGY SITES

As jihadis use cultural vandalism as a weapon of war, fears are increasing for the country's Greco-Roman heritage

**ARMED WITH SLEDGEHAMMERS**, chisels and a video camera, Isis militants took their propaganda campaign to Mosul museum last month, destroying statues and artifacts, dating back to the ancient Assyrian and Akkadian empires, and posting the results online and in slow motion.

The terror group's impetuous destruction of statues and artefacts in Iraq's second city, which it has controlled since its march across the Sunni-majority northern regions of Iraq last summer, has caused dismay within the archaeological community.

While many believe that the group attacks or loot antiquities for mere shock value or financial gain, Isis holds an intolerance towards items that are deemed *jahili* (pre-Islamic) and antiquities that depict humans, such as Roman statues or mosaics, according to Dr Hafeed Walda, the pending deputy ambassador to the permanent Libyan delegation at Unesco.

"There are threats to destroy statues, specifically from museums, because for them any antiquity that represents a human being should be destroyed," he says. "Their eyes are on big museums which have fine collections of Greek and Roman sculptures. This is where they are focusing at the moment."

Notable archaeologists and experts have raised their concerns about the threat presented by the wanton vandalism of cultural treasures that is

coming to define the group and its growth in other countries of cultural importance, particularly the increasingly lawless coastline of Libya, where a number of historic Roman sites are situated.

Because of Isis's "criminal vandalism" in Mosul, Paul Bennett, the head of mission at the UK-based Society for Libyan Studies, wrote to Unesco's director-general Irina Bokova, of his "extreme concerns for the antiquities of Libya" because of the very real threat of similar attacks by the terror group in the country.

Libya's descent into chaos since the fall of Colonel Muammar Gaddafi in 2011 has given rise to looting of cultural treasures and the damaging of ancient sites, such as the Karamanli Mosque in Tripoli (which gunmen stripped of its ceramic tiles) and attacks against holy Sufi shrines in the city of Zlitan, both in 2012. However, the rising influence of Isis in the country, particularly along the Mediterranean coastline, has brought the group closer to sites of historical significance, outside of its self-proclaimed caliphate in Iraq and Syria, than ever before.

The group now controls the north-eastern coastal town of Derna, and holds a presence in a number of vital towns and cities, including Tripoli, where it claimed responsibility for an attack on the Corinthia hotel in January that killed nine people; Benghazi, where it is battling the Oper-



BY  
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**MOVING IN:** An armed motorcade belonging to members of the Islamic Youth Council drives along a road in Derna, in eastern Libya. The group has pledged allegiance to Isis and observers now fear that Libya's historic Roman sites may suffer the same fate as those destroyed in Mosul

REUTERS/STRINGER

ation Dignity forces of former Libyan general Khalifa Haftar alongside other jihadi factions, such as Ansar al-Sharia; and Sirte, where it has captured the main university and is believed to have carried out the execution of 21 Egyptian Coptic Christians on the shores of the Mediterranean last month.

Lining the coast are a number of irreplaceable Unesco World Heritage Sites that are now endangered by the growing strength of Isis. One of the sites, Leptis Magna, is situated 130km east of the capital, Tripoli, and 100km west of the country's third city, Misrata, which Libyan Isis militants have proclaimed to be one of the group's prime targets. Here, the great Roman Emperor Septimius Severus built a forum, an improved harbour and a great basilica. There is a museum attached to the site which, like Mosul museum, houses invaluable statues and would be a likely target for extremists.

Also under threat from Libyan and foreign jihadis are the western coastal town of Sabratha and the archaeological site of Cyrene, in the eastern town of Shahat, which had acted as

a local Roman capital. Sabratha, which hosts two important museums which store coins and mosaics from the Byzantine era and statues from the Roman period, is currently under control of Islamist Libya Dawn forces, who support the General National Congress (GNC), a rival to the internationally recognised government in Tobruk. Cyrene hosts "one of the most impressive complexes in the entire world", according to the cultural agency, but now finds itself sandwiched between the Isis-controlled town of Derna and the city of Benghazi, where an Isis cell is battling for control.


Mohamed Eljarh, Libyan analyst and non-resident fellow with the Atlantic Council's Rafik Hariri Centre for the Middle East, warns that, while extremists have routinely targeted Libya's heritage since 2011, these "significant ancient sites" are at "high risk of being targeted by the group as part of its propaganda war". "Given that a huge part of Isis's expansion strategy is their media exposure and propaganda, I fear that significant ancient sites such as the Roman ruins in Sabratha and Leptis Magna are the two sites with the highest risk of being targeted by Isis militants. Isis now has a presence in Sirte and Tripoli. This puts them in very close proximity to these two important sites of Libyan heritage."

Issandr El Amrani, director for International Crisis Group's North Africa Programme, is pessimistic about the prospects of securing the "completely unprotected" sites. "Isis is driven to a large extent by doing things that have a propaganda value more than a practical military value so, yes, they could be tempted to [attack the sites], to create the narrative that they are fighting anything that is *jahili* (pre-Islamic)," says Amrani.

As the North African country continues its slide into chaos, becoming a magnet for foreign fighters, and an embryonic extension of Isis's caliphate, there seems to be little hope for Libya's cultural legacy. UN-brokered talks between the two rival factions in the country have collapsed and the international community continues to refuse a lifting of a UN arms embargo on the country in order to allow the recognised government to tackle jihadi groups.

In the aftermath of the Mosul attack, Unesco director general Irina Bokova told a press conference that the UN's cultural body "does not have an army" and "there is not much we can do" to prevent the looting and damage of antiquities in war-torn areas. But, for Libya, Dr Walda disagrees with Bokova, proposing tough security measures as a solution to protect his country's rich history. "We have to fortify the museums," he says.





# THE MEN WHO WOULD CURE DEATH

Billions of entrepreneurial dollars are being poured into solving humanity's ultimate problem – how to live forever – and some say the answer is just around the corner

By Betsy Isaacson



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eter Thiel, the billionaire co-founder of PayPal, plans to live to be 120. Compared to some other tech billionaires, he doesn't seem particularly ambitious. Dmitry Itskov, the "godfather" of the Russian internet, says his goal is to live to 10,000; Larry Ellison, co-founder of Oracle, finds the notion of accepting mortality "incomprehensible," and Sergey Brin, co-founder of Google, hopes to someday "cure death".

These titans of tech aren't being ridiculous, or even vainglorious; their quests are based on real, emerging science that could fundamentally change what we know about life and about death. It's hard to believe, though, since the human quest for immortality is both ancient and littered with catastrophic failures.

Around 200BC, the first emperor of China, Qin Shi Huang, accidentally killed himself trying to conquer death; he poisoned himself by eating supposedly death-preventing mercury pills. Centuries later, the search for eternal

life wasn't much safer: in 1492, Pope Innocent VIII died after blood transfusions from three healthy boys whose youth he believed he could absorb. A little closer to modern times, in 1868 America, Kentucky politician Leonard Jones ran for the US presidency on the platform that he'd achieved immortality through prayer and fasting – and could give his secrets for cheating death to the public. Later that year, Jones died of pneumonia.

But historical precedent hasn't dissuaded some of the biggest names in Silicon Valley. Thiel, for example, has given \$3.5m to the Methuselah Foundation. Aubrey de Grey, Methuselah's co-founder, says the non-profit's main research initiative, Strategies for Engineered Negligible Senescence (SENS) is devoted to finding drugs that cure seven types of age-related damage: "Loss of cells, excessive cell division, inadequate cell death, garbage inside the cell, garbage outside the cell, mutations in the mitochondria, and crosslinking of the extracellular matrix. . . . The idea is that the human body, being a machine, has a structure that determines all aspects of its function, including its chance of falling apart any time soon, so if we can restore that structure – at the molecular and cellular level – then we will restore



**Perhaps  
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altogether.**

function too, so we will have comprehensively rejuvenated the body."

But SENS, which has an annual operating budget of \$5m, is puny compared to the Brin-led project Calico, Google's attempt to "cure death", which is planning to pump billions of dollars into a partnership with pharmaceutical giant AbbVie. Google is notoriously secretive, but it's rumoured to be building a drug to mimic FOXO3, a gene associated with exceptional life span.

Then there's the Glenn Foundation for Medical Research, the granddaddy of modern anti-ageing initiatives, started by venture capitalist Paul F Glenn in 1965. Since 2007, the foundation has distributed annual "Glenn Awards", \$60,000 grants to independent researchers doing promising work on ageing. The Glenn Foundation also works to kick-start anti-ageing initiatives within large institutions ("It began at Harvard and then we sought out MIT, and then the Salk Institute, and then the Mayo Clinic," Mark Collins, spokesperson for the Glenn Foundation, explains), and it puts more than \$1m a year toward grants by the American Federation for Aging Research, a charitable foundation dedicated to age-related disease.

The Glenn Foundation also works closely with the Ellison Medical Foundation, a far younger institution (founded in 1997). Ellison's passion project gives out hundreds of thousands of dollars in grants each year to scholars pursuing research on, and remedies for, ageing. Their decision to fund independent research – as opposed to creating grandiose, in-house programmes – may be paying off. Relatively modest research projects funded by Ellison and Glenn appear to be developing into a verifiable means to stave off old age – for lab mice. The tantalising question: can those lab results be replicated in humans?

#### **Ageing in Reverse**

In 1956, gerontologist Clive M McCay performed a somewhat ghoulish experiment on the rural upstate New York campus of Cornell University: he sewed the flanks of live mice together in order to link their bloodstreams. In the pairings McCay stitched together,





PETER FOLEY, DAVID PAUL MORRIS, SAM BARKER/GETTY, SHUTTERSTOCK

### LIFE EXTENSION

From top: Peter Thiel, co-founder of PayPal, Sergey Brin, co-founder of Google, and Larry Ellison, chairman of Oracle Corporation, are all on a quest to live past 100 or find an antidote to death altogether



### SACRED YOUTH:

Geneticist Aubrey de Grey claims he has drawn a roadmap to defeat biological ageing

one mouse was sprightly, healthy and young; the other was old and in relatively bad shape. With their bloodstreams linked, the old mouse seemed to age in reverse, getting healthier and younger as the experiment continued. The young mouse, meanwhile, aged prematurely. At the time, there wasn't much understood about blood; McCay's experiments were fascinating but a bit of a dead end, so he shifted his focus to calorie restriction, where his experiments eventually made him famous, while his ingenious blood work was largely left to languish.

Fast-forward 48 years to 2004. Amy Wagers, at Harvard University's Department of Stem Cell and Regenerative Biology, repeated McCay's flank-stitching experiments to see if she could reproduce his results. And it worked. So Wagers – in part funded by Glenn and Ellison – tried to isolate individual proteins in the mouse blood to see what was causing the ghoulish effect. She found that a protein called GDF11, common in the blood of young mice but sparse in the systems of the older rodents, caused much of the old mice's "reverse ageing".

In the bloodstream, GDF11 is responsible for keeping stem cells active; when GDF11 levels drop, as they do with age, stem cells (which are responsible for tissue renewal) falter, injuries heal more slowly and ageing begins to take hold. But even in very elderly bodies with very little GDF11 inside them, those stem cells never go away – they merely become dormant as GDF11 levels drop. Injecting young blood, with its high levels of GDF11, into old mice seemed to restart those dormant stem cells, causing the old mice to "age in reverse" as they produced the healthy, vital tissues associated with youth. The work is "incredibly promising", says Collins.

Meanwhile, at the M D Anderson Cancer Center in Houston, one of the Ellison Medical Foundation's senior scholars in ageing had also been experimenting with ways to keep mice from growing old. Dr Ronald DePinho was interested in telomeres, structures that



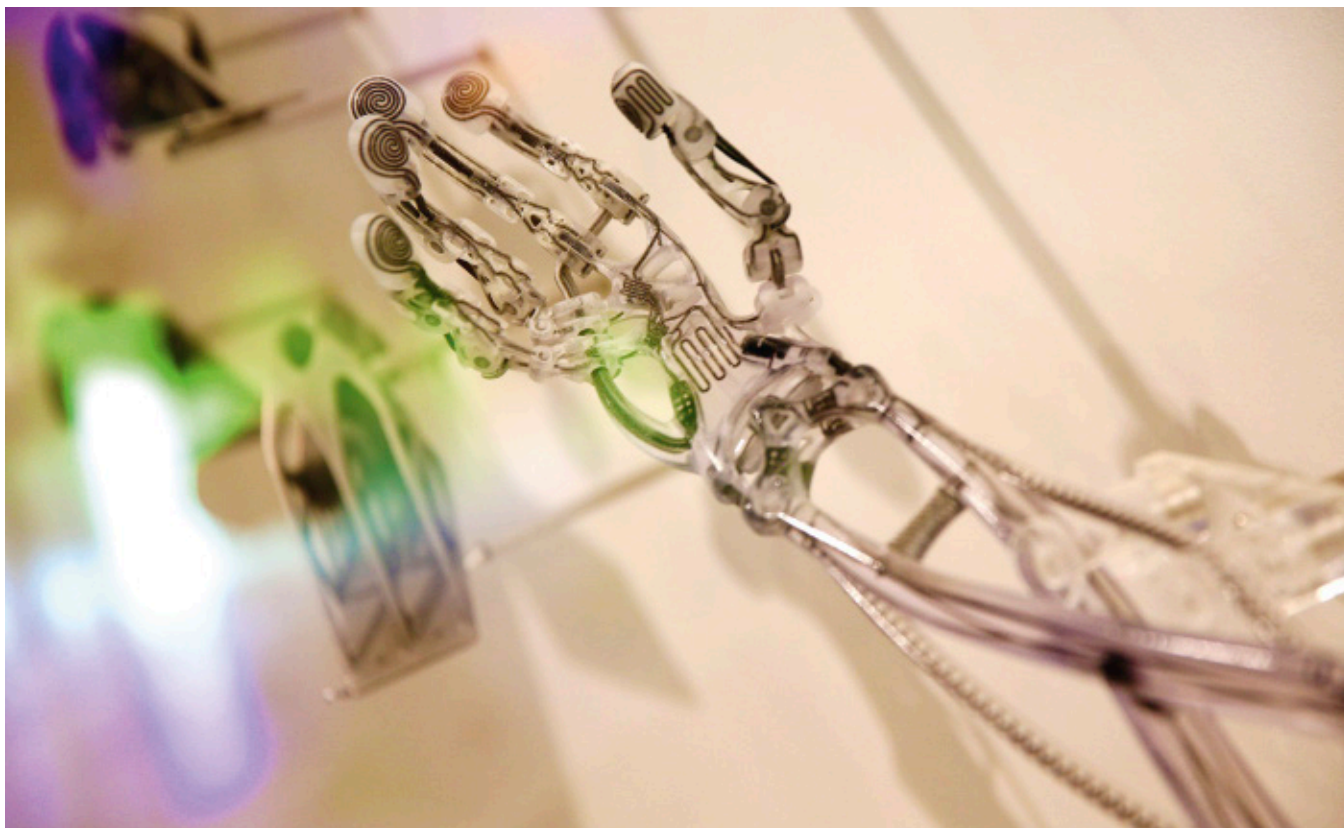
## BIOPRINTING

Surgeons refer to an organ model made by a 3D printer during an operation at Nagoya University Hospital in Japan, 2014, above. A 3D-printed prosthetic arm below. 3D printing can soon end the shortage of donor organs

cap the tips of chromosomes like aglets do the end of shoelaces. In young bodies, an enzyme called telomerase keeps telomeres healthy and stable; in older bodies, levels of telomerase drop, telomeres shorten and the chromosomes begin to fray. It seemed likely these fraying chromosomes were responsible for some of the physical effects of ageing, and DePinho wanted to find out how.

His team genetically engineered mice whose telomerase output could be switched off and found that in the “off” state, where there was no telomerase at all, the mice aged prematurely. “We took them to the point where they were the equivalent of 90-year-old humans,” he says, “with shrunken brains, impaired cognition, infertility, thin bones, hair loss, et cetera”.

Then DePinho and his colleagues switched the telomerase back on – and what he saw was incredible. “The organs started to restore themselves,” he says. “The brain increased in size, cognition was improved, fertility was restored, hair returned to a healthy sheen and all of the other problems



OLI SCARFF, ASAHI SHIMBUN/GETTY



that we saw in the animal were alleviated.” Giving telomerase to a telomerase-deprived animal didn’t just halt the ageing process – like GDF11, it seemed to make the animals younger. Might either or both of these discoveries be used to create a Ponce de Leon-style fountain of youth? “We’ve not done any life span studies on these animals so we don’t know whether this would have an effect on their life span. But we think that it would affect one’s health span – meaning the number of years that you live without a significant illness,” says Wagers. Preliminary studies look promising. Wagers says a colleague has been looking into a protein she describes as the fly version of GDF11. “When he gives more of it to flies, they live longer. And if he takes it away their life span is shortened.”

There’s one (huge) caveat here. Telomerase is linked to both the prevention and progression of cancer. Ageing cells that lack telomerase are more likely to become cancerous; when older cells replicate, their “fraying” chromosomes, unprotected by telomeres, often give birth to cancer-causing mutations. And once cells become cancerous, their telomerase levels rise, letting the mutant cells spread and multiply uncontrollably. Doctors treating cancer often work to deprive those spreading cells of telomerase – and many are worried that flooding the body with telomerase might help cancer along.

In other words, this path toward making us live longer could kill us.

DePinho and others think telomerase therapy will likely reduce incidence of cancer – by making chromosomes less likely to fray. And though scientists like University of California Berkeley’s Irina M Conboy have raised concerns that GDF11, by promoting cell regrowth, might also increase cancer incidents, Wager’s cautious optimism mirrors DePinho’s: she says there is no evidence GDF11 causes higher incidence of deadly diseases. Still, she says, more experiments must be done.

Neither she nor DePinho think their substances of choice will reach human clinical trials for several years yet. But with discoveries like Wagers’ and DePin-

## We may have to rewrite a lot of the stories we tell ourselves about how life – and death – work.



ho’s prompting an eruption of scientific excitement, the idea that we could live longer – not a few years more, but maybe a century or even several hundred years longer – suddenly becomes one of the more stirring and controversial topics of the coming century. “What this means for longevity must be defined carefully, of course, because with such dramatic developments there will be a very big difference between how long people have lived so far and how long people expect to live,” says de Grey.

If we start living for an average of 400 years instead of an average of 80, we may have to rewrite a lot of the stories we tell ourselves about how life – and death – work. According to Wagers, if ageing can be reversed, instead of the slow, steady decline into senescence we are used to, we might just live and live and keep on living, as healthy and, apparently, young-seeming humans, right until some organ or other fails catastrophically.

This in stark contrast to the dystopian future imagined by, for example, Gregg Easterbrook last year in the arti-

cle “What Happens When We All Live to 100?” in *The Atlantic*. Easterbrook and other posit a future in which life spans keep extending, but “health spans” don’t, and the sickly elderly live for decades and suck all of the money out of the economy. In Wagers’s version, on the other hand, everyone stays healthy right until they die – so maybe there doesn’t need to be a retirement age, and the economy grows and grows. Though perhaps that’s a recipe for another kind of dystopia: one where we work and work and work and never stop working for 384 years, until the day we die.

### Print Your New Liver

But maybe, in the future, we won’t need to worry about organ failure. For all those times when there isn’t an organ to spare, there’ll soon be cloned copies, either grown in the lab or 3D printed: We’ve already 3D printed livers and kidneys, turned skin cells into stem cells and stem cells into organs, and we’re redefining the definition of fatality, thanks to a procedure called cold saline resuscitation. Replacing a dying body’s blood with a rush of cold saline can drop the body’s temperature and put a dying patient into a state of suspended animation. And once a patient is in that state, doctors can fix a whole lot of things that might otherwise be fatal: gunshot and knife wounds, haemorrhages and organ failure – especially if there’s a handy supply of spare, cloned organs available in the emergency room.

To our current tastes, there’s something a little ghastly about this paradigm: living forever, or at least a long time, in an eternal, static youth, with trips to the emergency room more frequent as we get older, to periodically replace failing organs.

According to a 2012 Pfizer study, when it comes to aging, our greatest fears are of “being dependent” or “living in pain”. That might be replaced in our cultural imagination by fear of eternal youth leading to sudden, stunning death – what if your heart, 200 years old, suddenly gives out when you’re nowhere near a hospital? The body horror of the future may be very different from today’s, but it’s horror all the same.

Perhaps the fix is to replace bodies – these unreliable vessels, plagued with problems – altogether. That’s the goal of the most ambitious billionaire-backed immortality investment of them all, Itskov’s 2045 Initiative. Founded in early 2011, the initiative has already collected an impressive set of experts in specialties ranging from robotics and neural interfaces to artificial organ creation. Their goal: replace our current meaty cases with robotic or holographic avatars by (you guessed it) 2045.

In some ways, the 2045 Initiative’s goal isn’t as ridiculous as it sounds. Tele-operated robotic avatars exist, though so far they’re more novelty than lifestyle choice. Itskov thinks that as tele-operated avatars become more fine-tuned, “the jobs with an increased risk to human life and health, such as that of a fireman, a police officer, a first-responder, a miner, etc., will disappear”.

Eventually, says Itskov, these tele-operated avatars will be “superior to the biological body in terms of its abilities”, thereby ushering in an era of increased avatar popularity. But even if such robot avatars get cheaper and experience a sudden upswing in use, consciousness is still tied to our meaty, messy brains – and thus far, no one’s yet made headway in transferring it to a more durable medium.

That’s not to say no one’s trying: tech giant Intel is aiming to have an “exascale” computer – a computer that can operate at the same speed as the human brain – by 2018. And in August 2013, researchers from Japan and Germany used Japan’s K supercomputer to simulate 1% of brain activity for one second. That may not sound like much to be excited about, but with exascale machines on the horizon, it’s surely a sign of what’s to come.

Markus Diesmann, one of the scientists involved in the K supercomputer experiment, told *The Daily Telegraph* in 2014, “If petascale computers like the K computer are capable of representing 1% of the network of a human brain today, then we know that simulating the whole brain at the level of the individual nerve cell and its synapses will be possi-

## From human to cyborg:

### The transformation of Dmitry Itskov

#### 1 BIG AMBITIONS

Russian billionaire and founder of New Media Stars, Dmitry Itskov, is best-known for the 2045 Initiative, which aims to achieve cybernetic immortality by the year 2045

#### 2 HUMANOIDS

Itskov hired a Texas-based company, Hanson Robotics, to create a model of his brain, in his pursuit of reproducing contents of the human brain in robotic avatars

#### 3 IMMORTALITY INITIATIVE

Itskov’s avatar is still in its basic stages, but he explained his ultimate goal would be to replicate human sensation and feeling



ble with exascale computers – hopefully available within the next decade.”

#### Youth Is Wasted On the Old

But whether we achieve immortality through robots, injections or protein packs, one profound and disturbing question remains: do we really want to live forever? And if so, why?

Itskov says he’s driven by frustration. A serial hobbyist, the Russian billionaire’s taken up judo, weight-lifting, diving, practical shooting – “but every time I achieve certain results in a new type of sport or a hobby, I realise that if I really want to get serious results, then I need to make this activity the focus of my entire life and sacrifice something else for it that is no less interesting”.

This dilemma, he says, keeps him constantly aware of how short life is. “For all the diversity of opportunities that life gives us, there is so little that we manage to find out and do.” Hence, Itskov’s incentive for the 2045 Initiative: “When I am successful in realising this mega-project, then I will finally have 10,000 years for numerous hobbies.”

For other billionaires, a short life doesn’t seem terrible compared to

the calamity ageing promises: a slow decline and death that most of us accept as inevitable. For Ellison, the frustration of the deteriorating body is personal: “I lost my mother to cancer and anyone who’s watched anyone suffer from that disease . . . well, life can’t be made much more dreadful for them,” he told *The Guardian* in 2001, when his interest in cures for ageing was first piqued.

For others, like Thiel, it’s the mainstream’s refusal to even think to thwart death that’s frustrating. “The way we psychologically deal with ageing is through some combination of acceptance and denial,” he declared at the Venture Alpha West 2014 conference. “Acceptance is: ‘[It’s] going to happen, there’s nothing we can do about it’. Denial is: ‘It’s not going to happen to me’.” Ask ethicists about immortality, though, and the quest starts to look a little less heroic.

Paul Root Wolpe, the director of the Center for Ethics at Emory University, argues that perhaps we ought to pay more attention to how the elderly are treated today before we think to extend life spans further. “When you hear people who are pro life-extension talk about





JEREMY NICHOLL, BRANDON THIBODEAUX / EYEVINE.

the greater font of wisdom, experience and perspective you'd create by extending life, well, we already have a lot of 70-to-90-year-olds in society now, and we do nothing to try to learn from them," he says. "So I don't buy that argument."

On the contrary, says Wolpe, "we already have doubled the average life span of humans and what that has created in modern society is a cult of youth." The elderly, meanwhile, are treated like detritus. Between 8 and 10% of American seniors were reportedly abused last year, according to the National Center on Elder Abuse (NCEA), and for every case of abuse on record, the NCEA estimates between 14 and 24 others go unreported. A study conducted by De Montfort University found that 61% of the elderly think society sees them as a burden, while 57% think the media encourages the idea that older people are a problem for society. Only a third feel their contribution to society is properly recognised.

Still, even Wolpe admits the pursuit of happiness may ultimately entail a pursuit of a lot more time to be happy. The goal, he says, should be to seek out "healthier living as we age . . . finding how we slow down the detrimental



**"I will finally have 10,000 years for numerous hobbies."**

aspects of ageing. How do we keep people healthier longer and increase the amount of time that they get to appreciate and enjoy life?" But, he says, should our society be prepared for it, "if in the process of doing that, we also increase life span, that's fine".

Perhaps the most worrying question that arises with the prospect of having millions (and even billions) of multi-centenarians running around on Earth is whether or not the planet can support this kind of growth. Current projections suggest that the world's population will rise from seven billion today to about nine billion in 2050 – at which point it will more or less level out. Abundant concerns have already been raised about what all these billions of people will do for work, not to mention where they will get safe drinking water and the food necessary to live healthily. But those forecasts don't consider the possibility that we'll stop dying. If we do, the next generation of innovative health-tech entrepreneurs will face perhaps an even greater challenge: redesigning the planet to accommodate its massive population of Humans 2.0. @Isaacson\_Betsy





# CATCH ME IF YOU CAN

The pickpockets of Barcelona are notorious for their cunning and skill. But now they may have met their match – a crack squad of undercover cops, who tramp 20km a day to catch a single thief

By Winston Ross in Barcelona





he thief has ducked into a lingerie shop on Portaferriassa street, just off of Barcelona's biggest tourist promenade, Las Ramblas. The undercover policemen who have been trailing her for the past half hour motion me in after her, alone. They're worried she'll notice these two burly dudes if they try to follow her into an underwear store. I pass for a typical *guiri*, a tourist, with a bulky camera draped around my neck. She'd never suspect I'm police. Maybe I'll catch her in the act.

The pickpocket, the *carterista*, is tiny, maybe 5ft 2in. She has fine reddish-brown hair and she's wearing a cheap white jacket and rose-coloured trousers. Because they have arrested her nearly 10 times before, the police know she's 19 years old and Bulgarian, but she has an ambiguous ethnic look, like she could be from anywhere. She blends in.

The thief is pretending to shop. She has a couple of bags from other stores on her arm, completing the costume. She picks up a pair of slippers as if to survey them, but she doesn't actually look at what she's holding. Her eyes are darting around the store, in search of a mark.

The policemen recognised her when they spotted her half an hour earlier, because they are two of a team of 30

experienced officers with Barcelona's Guardia Urbana, whose sole focus is petty crime. These officers have devoted 10 and four years, respectively, to scouring the city for pickpockets. There's so little crime of any real consequence in Barcelona that the Guardia Urbana can chase pickpockets all day long. But petty crime here has got so bad over the years that it's the first thing anyone mentions to newcomers: watch your wallet. Always carry your backpack in the front. Don't leave your camera on the table while you're eating tapas.

Everyone I met after arriving in Barcelona a month ago told me to be wary, especially in Raval, my neighbourhood. Everyone had a story to tell, too. Some had had their pockets picked without knowing it. Others were victimised by small squadrons of thieves: one approaches from the left, holding a map and pretending to ask for directions, another sneaks up from behind and slides a wallet out of a pocket. One friend of mine, Shayne Pavlić, was approached by a guy pretending to be drunk, who tried to dance with him and put his arm around him. When the thief stumbled off, Pavlić's phone was gone. A few months later, another *carterista* tried the same trick. Pavlić knew what was happening that time and tried to push the thief away, but the pickpocket tripped him and stole his phone anyway. Pavlić chased the *carterista*, but just around the corner a friend of the thief was waiting, and shoved him into a wall.

"It actually knocked me out for a second," Pavlić told me. "When I came to, I kept chasing them. I think they ducked in a doorway. They just disappeared."

#### DANCE OF THE PICKPOCKET

The Bulgarian girl, the one in the lingerie shop, has picked up a pair of off-white pyjama pants and has them draped over her arm, obscuring her hands. A classic technique, I've been briefed by the police, called *muleta*, a word used to



describe the balletic movement bull-fighters make as they hide their swords beneath a cape. My heartbeat quickens. She's about to make a move.

By this point, I've already decided I would make a terrible undercover officer. I've spent hours with these two veterans, and every time we're tracking a *carterista* I lose the guy or girl, over and over again. They have to keep pointing out where the suspect is and risk revealing themselves, by which point the thief could have stolen anything from anyone. Even in this lingerie store I'm completely hapless.

Do I look at her? Not look at her? Do I pretend to be examining bras? If I raise my camera to snap her photo, won't that give me away? How far away should I be? Should I stand in front, or behind her? The whole thing feels impossible.

But this is how the police catch pickpockets red-handed: they start with the *carterista*. Either someone they recognise, or someone who's clearly staking out a pack of *guiris*. When 15 people are looking at a statue and one guy is looking at their backpacks, that's the telltale sign. The Bulgarian girl they recognised, and she was clearly at work. Within moments of spotting her, they watched her sidle up to a Japanese woman who'd just slid her phone into an open pocket

**15 people are looking at a statue; one guy is looking at their backpacks.**





on her jacket. Once, twice, the thief went for the phone, and came away empty-handed. Had she succeeded, she'd be in jail. But she is still hunting, and so we are still hunting her.

The cops know only a few details about the girl, which is typical. She lives in Poble Sec, a low-rent district in Barcelona, with other thieves. They're all from Bulgaria and they've all come to Spain specifically to steal. Pickpockets tell police they can make up to €20,000 in a few months, enough to live well back in Bulgaria for a year or more. They're not from Barcelona and have no particular tie to the city, the police insist. They move all over Europe, often timing their travels with big conventions and festivals. The recent Mobile World Congress in Barcelona, for example, was expected to lure thousands of the ripest marks – Asians – to the city. The top three safest cities in the world, according to a recent report by *The Economist*, are all in Asia – Tokyo, Singapore and Osaka, and tourists from these places are often unaware that they are targets.

## STRANGER DANGER

It is a Friday afternoon, the day before Valentine's Day, and even in these slow months Las Ramblas is full: hipster Barcelona kids, teenagers dressed like

devils for Carnival, tourists munching patatas bravas, toddlers on their parents' shoulders, vendors flinging those annoying little LED toys up into the air. It's packed with people and distraction. Here, there are always tourists, and there are always *carteristes* willing to relieve them of their euros.

"This is not a dangerous city," the deputy mayor's chief of staff, Josep Rius, told me at City Hall before I met up with the police. In fact, he noted, *The Economist* ranked Barcelona the 15th safest city in the world. "More than 50% of all crime is really low level crime. There's almost no violence."

Because the pickpockets are so likely to be foreigners, it's not the case that the financial crisis battering Spain for the past seven years is having much of an effect on petty crime here – at least, not in the way you might expect. The more well-off people are, both in the country and among foreign tourists, the more money they roll in to town with, the more packed the boulevards, the easier the whole game.

The policemen I'm shadowing are Angel Perez Vizcaya and Victor Márquez. Vizcaya sports a thick beard, a forest-green thigh-length puffer jacket, jeans and trainers. Márquez

is clean-shaven, clean-cut and square-jawed, and he's also in jeans and trainers. The two walk as much as 20km in a single shift. Neither smiles much. As they walk Las Ramblas, they seem intensely focused on the hunt for *carteristes*. It really matters to them, this job.

I expected some kind of community policing effort, that at least some of these cops would have some kind of relationship with the thieves. I thought we'd walk around and the cops would spot a hard-luck youngster they'd known since the first time they scooped him up, and ask how he was doing in school and wave to his *abuelita* on the terrace upstairs. But these cops have zero relationship with the thieves we are following. The *carteristes* are pretty much all foreigners and, while they may all be familiar with one another, building some kind of constructive relationship is pointless, the police tell me. They'll be back in Bulgaria, Romania, Algeria or Morocco soon enough.

The Bulgarian girl in the lingerie shop is edging closer to a group of Japanese tourists, this pair of pyjamas draped across her hands, and that's when I see it. The pyjamas are an inch from a woman's bag, and the thief's fingertips extend just enough

**FACES IN THE CROWD:** Las Ramblas, popular with tourists and thieves. The police have arrested the pickpockets so often they know them by sight

**DISTRACTED:**  
Inattentive tourists are prime targets for pickpockets like the girl from Bulgaria, below, who already has two pending trials

to try to open it. The bag's owner has no idea it's happening. Even if she's been cautioned about pickpockets, it's highly unlikely anybody told her to be on guard in a store like this. And she is about to have her wallet lifted from her bag.

"This is a good one," Vizcaya says. "She's quick."

As pickpockets go, the girl may be good, but she is not Barcelona's finest. She is a *cuatro por cuatro*, the cops tell me – a four-by-four, meaning she's versatile, dabbling in several kinds of thievery. But he had encountered two of the city's best at the beginning of this shift. They were also girls, but from Romania, and they were circling a pack of unaware Asian tourists like cheetahs stalking antelope. The cops watched for a while, then decided they probably had already scored something that day. The Romanians' behaviour around these tourists was enough probable cause for a search, so the cops stopped the girls and dug through their bags.

"Why did you stop me?" asked one of the girls. Márquez responded that he saw them casing tourists. "I don't have a job, that's why I do it," the girl told him. "There are many more thieves who are politicians and bankers."

"OK," Márquez responded. "Go see the minister of interior affairs."

"It hurts me so much to do this," the

girl tells the cops. "I don't do it from the heart."

The girls were clean. One of them was angry. The other one seemed to want to talk, to justify herself, so

I asked if she'd tell me a little bit about her methods.

"I don't like to talk about how I steal," she said.

The cops never stopped scanning the street. Moments into the conversation they'd spotted another potential *carterista*, studying backpacks near the statue of Christopher Columbus at the edge of the area Barceloneta. They alerted me and we headed after the guy.

### THE WAITING GAME

The *carteristes* will search and search, walk and walk, for the easiest possible opportunity: that opened backpack, a bulging wallet in the back pocket, a pile of suitcases set on the street. No need to take unnecessary risks when there are so many suckers on the sidewalk.

You'd be amazed, Vizcaya tells me, at how exposed people will leave themselves. A few years ago, he spotted a Japanese tourist standing with his jaw agape in front of a cathedral. In his back pocket was a black leather wallet stuffed with euros. Four pickpockets, all women, surrounded him and one lifted his back pocket. Vizcaya had been following the group and quickly appre-

hended the thieves. Had he not been there, they would have made off with a staggering €18,000 along with a stack of credit and debit cards. The tourist had another €30,000 in his shirt pocket, along with his passport. And get this: the man was actually carrying a piece of paper with the PINs written down for each card. "He said he had a bad memory," Vizcaya says.

Part of the reason pickpockets tend to work in teams is because they know there are undercover police everywhere; cops fixated on hunting them down. There are often three or four thieves working in the same gang, sharing their spoils. One or two are the distractors, one does the actual pilfering, one keeps a lookout for cops. Some specialise in entire bags, others in lifting wallets from bags, or back pockets. Some tend to stick to mobile phones. It's more difficult to work solo because that involves some tricky multitasking. Some work the streets, others work the metro, pinching a wallet just as a crowd of tourists are pushing their way on to a train and then skipping off back into the station as the victim rides away.

In the lingerie shop, however, the Bulgarian girl is being watched – by me. I've unwittingly cornered her in this narrow store and have little choice but to stand there and watch her attempt to rob the Japanese tourist. She's not paying any attention to me, and so I stay. When she fails to unclasp the purse, she glides over to another mark. I don't think I've taken my eyes off her for a moment, but she has somehow done something to the next woman, a friend of the first potential victim, also carrying a bag. The woman pulls back sharply, shoots a surprised glance at the Bulgarian and checks her pocket.

The cops are outside, hoping I've acquired some photo evidence of a pinch. I'm empty-handed, too cowardly to have even raised the camera and risked outing myself. They're clearly disappointed, but we press on and maintain the shadow. The girl ducks into a Subway for lunch. We wait. "You need a lot of patience," Vizcaya tells me. "It's like fishing."

I have to ask at this point: is it at all frustrating, spending an entire shift



WINSTON ROSS



trailing a pickpocket after 10 years on the force? Wouldn't you guys rather be after bigger fish? But both cops insist that is not the case. Vizcaya tells me he finds it hugely satisfying when he gets to return a wad of cash, a wallet, plus passports and credit cards to a bewildered tourist. "They're in a foreign country; they don't speak the language," Vizcaya says. "To be able to arrest the person and give these belongings back to a tourist, it's fulfilling." Márquez agrees. "When I travel to other countries, I like to feel safe, to go sightseeing without problems. This is about the comfort of citizens and tourists here. It's the kind of crime we have here, and it's what we are fighting."

### THE WHISTLEBLOWERS

The locals care, too. They're tired of Barcelona's reputation as a pickpocket haven, and many who work at little *tiendas* on the street and in metro stations wear whistles around their necks, which they blow to alert tourists every time they spot a known pickpocket. One woman, who moved to Barcelona from Colombia 15 years ago, appointed herself the city's guardian angel, spending hours each day riding the metro in search of *carteristes*, blowing her whistle every time she spotted one.

Our *carterista* leaves Subway and heads for the metro, a sign that she's finished for the day, and that somewhere along the way she's pinched something. The cops swoop in, stopping her before the turnstile. With little explanation, they take her bag and search her. She protests, but lightly. "Didn't you put your hand in that Japanese lady's jacket?" Márquez asks her. The girl shakes her head, and lights a cigarette.

After a few minutes of questioning, the cops lead her back upstairs to Plaza Catalunya or a female officer to search her as they continue to rifle through her purse and shopping bags. All they find is a ziplock baggie that *carteristes* often use to stuff stolen money into their vaginas, Vizcaya tells me. The female cop shows up, escorts her into the van, conducts a search and comes up empty.

Meanwhile, the police run her name in their system and learn she has two

pending trials on theft charges, the first in April. She insists she's planning to show up in court, but they tell me afterwards they believe that unlikely. She's better off heading back to Bulgaria just before her court date and waiting six months, at which point they say her charges will disappear.

"The problem is with re-offenders," Rius had told me earlier. "You can't put a pickpocket in jail for one offence."

Petty thefts of less than €400 – that includes most pickpocketing crimes – are classified as "minor" and punishable only by a small fine. There's no jail time available to prosecutors as a punishment, unless the thief was violent during the robbery. Several members of the Barcelona City Council have pushed for reform of the law at the national level. All misdemeanour crimes in Spain are prosecuted independently, and without regard for prior convictions, said Sergi Sabaté Butí, a spokesman for

ment. That effort began after the election of Barcelona mayor Xavier Trias in 2011. One of Trias's first moves was to put nearly every officer on the force permanently on foot patrol. Now, 89% of the city's 3,000 officers work the streets, not a desk.

The Guardia Urbana had zero officers patrolling the metro at the time, and the new focus changed that. Since, crime on trains and in stations has plummeted by a third. There are separate patrols for the beach now, too, and crime there has dropped 10% in three years. Officers out and about are more likely to spot crime but also to prevent it, since thieves are less brazen when they can see a cop within shouting distance.

"This strategy was important not just because of the results but because of the perception of citizens in Barcelona," Rius said. "Now, people are convinced that Barcelona was more secure than it was four years ago. That's very import-

**"It hurts me so much to do this. I don't do it from the heart."**

the city. He points out that in cities like New York, on the other hand, judges can and usually do ramp up penalties after considering a defendant's past misdeeds. "What we are fighting for is if one person who had done 10 low-level crimes in a certain period of time, it should become a high crime."

Most of the local thieves have figured out this loophole, which is why they're never here for long. Vizcaya has arrested a few *carteristes* in one particular ring more than 100 times, he tells me. It's a cat-and-mouse game that never really ends. "The law is too slow," Vizcaya says. "They can face between five and eight years of prison, but it takes a year and a half to get them there. And if they don't want to go, they just leave."

I ask again: what's the point of all this effort, then? Rius told me the number of petty crimes in Barcelona has dropped 15% in just the past three years, as a direct result of the stepped-up enforce-

ment. Four years ago, nearly 20% of voters who answered an annual public opinion survey conducted by the Barcelona City Council said they considered "insecurity" about petty crime the city's top issue, above even economic and other social issues.

That number has since dropped to less than 10%, Sabaté Butí said. How did things get that bad in Barcelona in the first place? Vizcaya suggests petty thieves took the city by surprise after Barcelona became a hot tourist attraction in the wake of the 1992 Olympic Games.

These days, maybe Barcelona no longer deserves its reputation as the world's worst city for pickpockets. Two days after I left Spain to meet some friends in Milan, they had a backpack with two company laptops stolen from the lobby of the Westin, hours after arriving in Italy. They spent the first afternoon of their vacation at the police station. **N**



## REAL ESTATE REINVENTS ITSELF

Global property prices are on the rise, nearing pre-2008 levels. But it's far from business as usual. **By Tom Rendell**

**T**his week, 21,000 property professionals from across the world will gather at the Palais Des Festivals in Cannes, on France's Cote d'Azur. At MIPIM, the world's largest property event, the message echoing through the exhibition halls will be positive: property is back.

After the global financial crisis of 2008 prompted a fall in the value of commercial real estate (CRE), and the levels of rent it could command, levels of investment are beginning to return to former heights. Research from CBRE, the world's largest commercial property advisory firm, shows that in 2014, four countries in Europe reported record levels of investment in CRE: Spain, Ireland, Sweden and the UK. The level of CRE investment in the fourth quarter of 2014 was the highest CBRE has ever recorded. The view from MIPIM looks good, and that's not just the proximity of the Mediterranean Sea.

Compared with other sectors, property has shown strong growth since the global financial crisis. As an investment it offers a higher yield than bonds. Low interest rates have also helped, and there has been a huge investment demand in property fuelled by private and institutional capital, which requires the income that bonds just don't provide now.

London and Hong Kong have experienced impressive growth due to their positions as major financial centres, aided by quantitative easing. But just because we are witnessing an upturn in property value, this does not mean a return to business as usual. New trends at the occupier level are transforming real estate.

Where, how and why companies are occupying space in cities is changing. These shifts mean that property investors and developers must now be more mindful and seek to understand the requirements and even personality of a likely tenant.

## Property stays strong

Safer than bonds and with proven and lasting rates of growth and return, property is the smart investor's choice

**T**here is an interesting story that illustrates the strength of commercial property as an investment and how it does not necessarily follow major economic trends. In London's Canary Wharf, a skyscraper at 25 Bank Street was under development in 2001, earmarked for occupation by American energy giant Enron. This plan was abandoned prior to the company's well reported collapse in December of that year. Nevertheless, Canary Wharf Group was able to secure an agreement with Lehman Brothers to rent the building on completion on a 30 year lease, and 25 Bank Street served as the European Headquarters of the financial services firm from 2004 until their own insolvency in 2008.

When this happened, around half the building was already let to sub-tenants who continued to occupy and paid rent; the former Lehman Brothers space was occupied by the administrators who also paid rent. The building was sold in 2010 to JP Morgan Chase for £495 million. What other financial asset – bond or equity – would continue to hold such a high proportion of its value despite such a turbulent sequence of events?

With the global economic recovery set to continue, the outlook is good for property. The US recovery is on track with growth of 2.5% in 2014 and 3.1% in 2015 likely. Growth for the same quarter in the eurozone is slower at 0.3%. However, falling





oil prices, an end to fiscal contraction and QE seem likely to boost growth in 2015 and 2016.

'Abenomics' has been positive for growth in Japan. Reforms in the Chinese economy are set to introduce a flow of savings estimated to be £1.3 trillion into the economy over the next five years. The performance of these major economies has an impact on the finances of their citizens in the form of real estate prices.

Home owners in London experienced a 16% rise in house prices in 2014, which saw their city overtake Hong Kong as the most expensive for residential property per square foot in the world. Companies operating in Beijing, the third most expensive city for commercial real estate after Hong Kong and London, can expect prices to rise as there has been very little prime office supply added since 2009.

The real estate industry, backed in many cases by international capital, directly contributes to these property trends. As well as creating offices that allow businesses to thrive, real estate provides the modern logistics facilities that allow the city's shops, cafes and restaurants to be supplied quickly and efficiently. The industry builds homes too, providing the supply that

drives prices and allows the movement of people. And you don't need to be a homeowner to be affected by real estate; if you have a pension, it is likely that around 7% of the assets your pension fund manages will be in property.

International investment is a driving force in the real estate sector, particularly in major cities. Few have been more affected than London, where more than 50% of commercial real estate is now foreign owned. It is the rental income that flows from real estate assets that is prized by investors, for its stability and its ability to keep up with inflation long term. Another

**Nick Axford,  
Global head of research, CBRE**

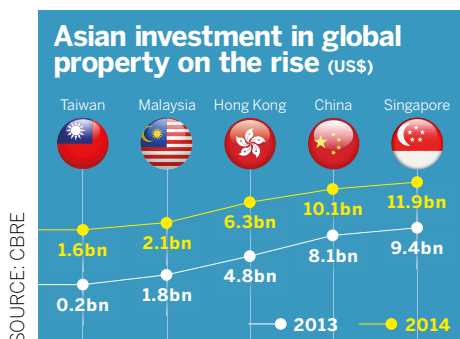
"The real estate industry that designs, produces, manages and invests in real estate, both residential and commercial, is highly fragmented. Yet the decisions taken in this sector are highly important since they create the towns and cities in which we all live and work. The physical landscape of a city changes relatively slowly over time, so decisions made in the real estate sector, for good or ill, have great longevity."

major factor behind the sector's current attraction is its combination of investment characteristics, which include both the defensive features of a bond with the upside growth potential of equities.

In terms of growth, there's the ability for income to rise as rents increase, but investors are also protected from inflation. Defensively, real estate investment represents a long-term bond-like income stream and the demand for commercial office space won't disappear. Perhaps most important of all, property offers a very high level of defensive capital protection, similar to gold. Even if your tenant goes bankrupt, the building can be re-let.

Demand for real estate as an investment and the interest of international investors, particularly from oil rich and growing economies like Qatar and China, have pushed up prices causing some experts to call it over-valued. However, markets are unpredictable. Investors want at least part of their portfolio to be in relatively high-yielding assets like real estate.

Nestlé saw the yield on its corporate bonds turn negative recently, which mean investors are paying to hold its bonds, such is its security. In such an environment, it is difficult to put too



high a price on Nestlé's own office buildings. Global prices are supported by the tide of foreign investment in real estate, which shows no signs of slowing with Asia an increasingly significant investor – the continent saw a 23% increase in outbound investment in 2014.

Several trends have emerged that are shaping real estate at a national level. As global investors dominate gateway cities like London and Paris, national investors are looking to second-tier locations. CBRE research indicates that from 2012 – 2014, major UK cities (excluding London) saw domestic buyers account for 70–85% total investment, a very different trend to that seen in the capital. A second trend is that investors have moved beyond traditional CRE sectors of offices, retail and industrial into alternatives such as hotels, hospitals, nursing homes and student accommodation.

#### Richard Barkham, Global chief economist, CBRE

"Intense global competition for property and the restructuring of the banks have seen the rise of non-bank or shadow lending. Insurance companies have moved quickly to fill the gap left by banks. Fund managers have set up debt funds which have proved popular. We are also seeing P2P lending by REITs. Crowd funding for development has begun to emerge. What is clear is that debt markets are changing quickly with the banks priced out by onerous capital requirements."

## CHANGING OCCUPIERS

**T**raditionally, central commercial property is occupied by the sectors of finance, insurance, law and business services. But since 2008, demand from finance has fallen away, with an influx of technology and creative industries, sectors that have fared better in the post-crisis era.

In London, creative sector take up reached a peak of 4 million square feet in 2013, over double the 1.9 million square feet annual 10-year average. Avoiding the highest-cost locations and focusing on attracting the talent of the millennial generation, the tech sector has revived central but previously unfashionable urban

areas. Airbnb and Uber in SOMA, San Francisco, or Google and Facebook on London's Silicon Roundabout, right, in Shoreditch. Across Europe, Factory Berlin is home to Twitter and Soundcloud in Germany; 22@ District in Barcelona is a successful government-backed innovation district. To understand the changing needs of occupiers, it's important to realise that the factors driving decisions about locations are changing.

CBRE's annual European Occupier Survey identifies these trends. The 2015 survey results show that workforce is an important factor in office location. Approximately half of the respondents (46%) cited talent



## The new office

**T**he tech sector is leading the way in innovative use of office space: workplace strategy. This is the approach companies use to maximise the effectiveness and efficiency of workspaces, and it is viewed increasingly as a business necessity. The most well-known examples of modern workplace strategy stem from Silicon Valley: open, colourful spaces, with hot-desking, ping pong tables and free lunches, a far cry from the impersonal and structured office designs that have dominated financial and legal offices for years. But it's a mistake to think the approaches of Google and Facebook have been implemented with leisure in mind; they are designed to maximise creativity as well as productivity.

Open, communal areas encourage collaboration and the kind of creative accidents that lead to new product ideas or client leads. A quirky, non-cor-



## NEW NEEDS, NEW SOLUTION

The resurgence of CRE prices and the sector's ability to adapt to changing market forces and occupier needs is the beauty of real estate investment. New companies with different needs are moving into previously unpopular office markets and, with the right support and expertise, are transforming them as well as property prices in those areas.

With intense competition for office and housing stock, investors have broadened focus to include hospitals and hotels, providing services for local communities. As bank lending decreases, other forms of financing have sprung up. It is the flexibility of real estate that makes it such a secure investment and by monitoring trends and adapting to occupier needs, investors will benefit.

The financial reasons for investing in real estate are numerous, particularly due to the stability the sector offers in today's unsettled economic climate. But commercial real estate is only a good investment if it suits the needs of its occupiers. More than ever before, the needs of occupiers are changing and investors need to recognise this dynamism, or work with advisors that are in close contact with occupiers, to ensure that they derive the benefits from real estate that they are expecting.



availability as a key factor, while 30% highlighted the cost of labour. Both responses were 10% higher than in 2014. Location decisions are becoming much more dependent on

where labour is - or can be persuaded to move to. This trend is driven in part by the tech sector's 'war for talent', as they try to attract millennials with a marked preference for city living.

porate office attracts top graduates who prioritise job satisfaction. With the tech sector reaping the benefits of innovative workplace strategies, this trend is bound to continue, fuelling the demand for large efficient open-plan floorplates and flexible spaces. Due to the rapid growth of tech companies and the fact that their space requirements change quickly, short lease commitments with early break clauses are preferred.

Innovations in workplace strategy are taking place beyond the tech sector; many law firms are rapidly adopting alternative approaches. A CBRE survey in 2014 found that legal firms needed to reduce their office space under increased competition from

new entrants and client demands for lower fees. These pressures, alongside increased mobile working, have meant that 64% of firms surveyed used alternative space strategies.

Open plan offices encourage increased collaboration and support business growth: "Once you move to open-plan, you start operating in a slightly different way. I think it will become the norm in five years' time," said Douglas Peniston, operations director, FieldFisher. But CBRE's survey noted the potential disruption a change to open-plan can bring, highlighting the importance of ensuring that any shift in strategy fits the personality and objectives of the business.

**"It's about inspiring creativity, bringing people together and allowing people to feel comfortable in their workplace."**

**Helen Sullivan, Head of Facilities, Mother**

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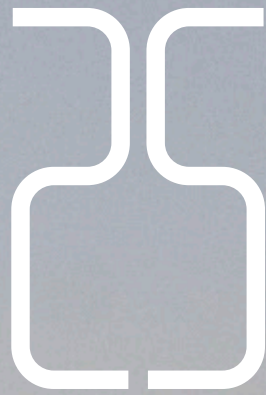


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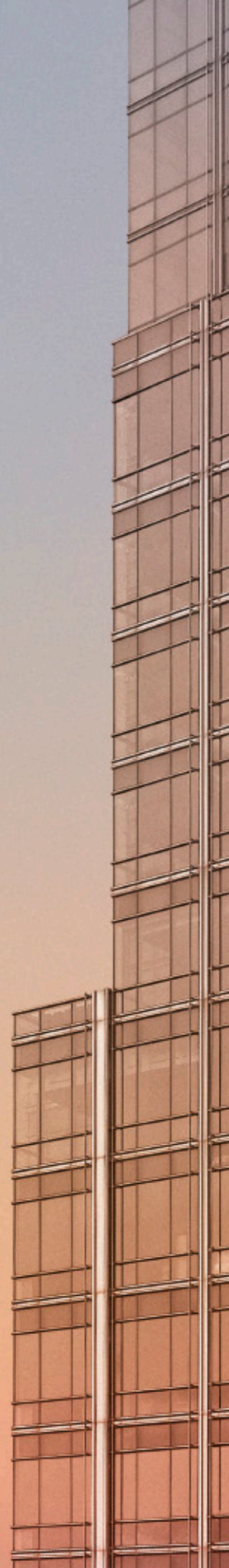
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CANADA SQUARE  
CANARY WHARF

CLEAR ADVANTAGE



# Global Real Estate

## Representative global transactions 2014-2015

The Global Real Estate Group at Dentons acted as legal counsel on the following selected transactions.

### Apollo Commercial Real Estate Finance, Inc.

US\$210 million

Senior secured credit facility for a portfolio of 229 high-end, luxury condos, homes and apartments worldwide

US



### Everbright Securities Financial Holdings Limited

HK\$4.095 billion

Acquisition of 70 per cent equity interest in Sun Hung Kai Financial Group Limited

China



### Meininger Holding

€400 million

Formation of a commercial strategic partnership with Foncière des Régions, through its subsidiary Foncière des Murs, to source and acquire hotel properties across Europe

Europe



### P3

Value Confidential

Acquisition of a portfolio of three logistics parks totaling 467,000 sq.m. of lettable area and additional development land

Poland  
Romania



### Mizrahi Developments

CA\$200 million  
(aggregate)

Acquisition of land assembly, including the iconic 30,000 sq. ft. Stollerys store, at the corner of Yonge & Bloor streets in Toronto

Canada



### Bouygues

ca. £600 million

Phase I and II of a redevelopment project at Canning Town, part of a £3.7 billion project to transform a large part of the London Borough of Newham

UK



### KSL Capital Partners

Value Confidential

Acquisition of the Village Urban Resorts business from the De Vere Group

UK



### Magellan Development Group LLC

US\$900 million

Joint venture with Dalian Wanda, Chinese-owned developer, for the development of an 89-story, mixed-use tower in downtown Chicago

US



### Deutsche Bank CRE Special Situations Group

Value Confidential

Acquisition of a portfolio of residential real estate loans from Spanish company SAREB

Spain





## Q&amp;A

## Brian Eckersley &amp; James O'Callaghan

*Eckersley O'Callaghan*[www.eocengineers.com](http://www.eocengineers.com)

ECKERSLEY O'CALLAGHAN are consultant engineers specialising in structures, facades, glass and marine design. Founded by Brian Eckersley and James O'Callaghan, the firm celebrated its 10th birthday in 2014, and are now 50 strong with offices in London, New York, Shanghai and Paris.

Eckersley O'Callaghan have been closely involved in all significant Apple retail stores around the world in the past 11 years where they have repeatedly collaborated in engineering some of the most ambitious glass structures in the world. They were recently given the Supreme Award for Structural Excellence by the UK Institution of Structural Engineers, the highest honour in their annual awards.

**Q: In 11 years, what are some of the stand-out projects?**

We have collaborated with Apple and their design teams on many projects, and they have often radically pushed the boundaries of materials, particularly glass and carbon fibre. They have been remarkable in their willingness to trust us. The cube on 5th Avenue (BCJ Architects) and the Zorlu project in Istanbul (Foster + Partners) particularly stand out. At the other extreme, our recently-completed projects at the V&A Museum's Weston Cast Courts dealt with an important heritage building. Gota Dam (Sforza Seilern Architects) was a spectacular residential project built in a very remote area in Eastern Africa. Great projects yet to be built are Keble College Oxford (Rick Mather Architects) and Milner Library, Edmonton Canada (Teepie/ATB).

**Q: How has your industry changed?**

It has become ever more competitive, particularly in London and in 'traditional structural work'. This puts downward pressure on fees and means you have to be efficient and make the utmost use of software. It can make it harder to



finesse the design of a project and we fight hard against that. However, our other engineering design specialisms such as facade or glass engineering are much more unique in the marketplace and highly sought after. Clients seek us out and there aren't the same pressures to minimise costs.

**Q: You have offices in London, Paris, New York and Shanghai. What are the most interesting growth markets?**

We are seeing growth in London and in New York too, where our approach is quite different from typical US engineers. We're also active on the West Coast. China offers great potential, and we've barely scratched the surface of that market. We find all markets stimulating and hopefully bring something to any project. Even when we were a very small practice, we were working all around the world, so it's in our DNA. We are used to the issues involved, such as local regulations and partnering with local consultants.

**Q: You work with a range of materials including glass, steel, concrete and**

**timber. Are there recent innovations you're particularly excited about?**

Glass continues to fascinate us. There is still huge amounts of development potential, both in using the material as structure, and making it ever bigger. However it's in embedded and coating technology that things are moving fast right now, enabling smart hi-tech glass facades that better modulate a building's environment. We are also doing a lot of work on very thin fusion glass. It's incredibly strong and can make very lightweight envelopes, but the thinness means that they deflect a lot and so that presents a challenge.

**Q: What is the future for engineering design? And where do you fit in?**

Design software will continue to automate the process for standard building types. We are a broadbased practice, as well as innovating, we like to do very pragmatic commercial structures too, so we keep abreast of those skills. The prosperous consultancies will offer stand out specialist engineering design skills and service. We have a strong combination of those skills.

# URBAN CHIC / GRAND GEORGIAN

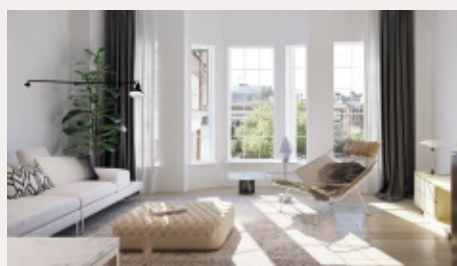


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## Q&amp;A

## Martha Schwartz

*Martha Schwartz Partners*

MARTHA SCHWARTZ PARTNERS IS A leading international design practice whose work focuses on activating and regenerating urban sites and city centres. Martha Schwartz Partners has over 32 years of experience designing and implementing installations, gardens, civic plazas, parks, institutional landscapes, corporate headquarters, master plans, and urban regeneration projects.

**Q: How has the industry changed over your 30-year career?**

**MS:** The profession has grown immensely. It is the fastest-growing design profession in the US. Many schools of landscape architecture have opened. The field is booming.

**Q: Which of your early projects stands out most?**

**MS:** My first project after graduating in 1979, The Bagel Garden, caused distress and consternation in the profession. It was a Dada-esque installation that questioned the absence of art within the profession.

**Q: What are the current growth areas for Martha Schwartz Partners?**

**MS:** As of last year, China was the 500-pound canary in our office. It took up most of our time and resources, but we were able

to realise some very unique projects in China. Now their economy has slowed down, we are doing more work in the Middle East. We're also getting more work in the USA, and London.

**Q: Which area of your work are you most excited about?**

**MS:** I feel best working in the public realm. Even though it has its challenges, it's an opportunity to affect many people's lives for the good. I enjoy cultural projects as well as regeneration work.

We like strategic thinking on complex and large projects as well as private gardens. I also love really tough and rough projects such as post-industrial sites, trying to both heal the ecologies but also make an artistic impact to positively re-characterise the damage to that site. We pretty much will work on any type of project as long as people wish us to do something special or unique.

**Q: Your company talks about your design work as the foundation for sustainable cities. What role does landscape architecture play?**

**MS:** Landscape architecture looks holistically at the ground plain, the land itself, upon which the cities sit. We view the landscape as

everything outside the building footprint – our streets, alleyways, sidewalks, utility corridors, parking lots, public parks, waterfronts, trainyards – everything that is not a building.

We are tasked to imagine how these environments function, ecologically, economically, socially, and culturally. But without creating a human connection of people-to-place, we will lose all the efforts of creating a sustainable solution through technology. Design creates human value and must be inserted into the discussion of sustainability if we are to create environments for people that will last.

**Q: What does the future hold for urban landscapes?**

**MS:** It will grow in its breadth and depth, given the rapid growth of cities. The issue of demographic, climate, social and political change, and how these forces act upon cities, is going to keep the profession alive and busy. We don't make objects, but try to understand what is right for the land, the people and the environment before we act. We design places where people can interact and connect with each other. We plan so that people can live in a healthy, walkable environment and enjoy public spaces. We work in an integrative, collaborative and fluid process in order to design unique places that create memory, identity, and move the spirit.

[www.marthaschwartz.com](http://www.marthaschwartz.com)



## Rejuvenated city

Exchange Square was a landmark project for us. It was our first project executed in the UK. It was a regeneration project and the site of an IRA bomb blast in 1996. We had the opportunity to redesign leftover pieces of the city, really, a kind of forgotten corner, and put it back so that it now functions as the living room for the city of Manchester. The plaza became immensely popular because it allowed

people a great freedom of use.

Grand Canal Square in Dublin marked the beginning of the development of the Dublin Docklands. MSP literally rolled out a red carpet to the world from Daniel Libeskind's performing arts building. This project was built before anything else in the area. In the UK, developers and city planners understand that if you improve the site by creating a beautiful landscape before you develop the buildings, "they will come", which they did.





## NEW WORLD

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# IN ROBOT-RUN FACTORIES, THE CAR PARTS HAVE THEIR OWN LANGUAGES

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The 'fourth industrial revolution' has begun in Europe, with ultra-customised products that can build themselves

**BUSY DAY?** A million things to do? Well, here's depressing news: you'll probably mess up about 1,000 of them. That's what the research shows, at least: for every million tasks a human performs, even the best of us inserts mistakes between 500 and 1,000 times. It might seem a lot, but think of the number of emails you send containing a typo, the number of dishes that make it to the drying rack with a fleck of food still on them, the gaffes when talking with colleagues, the mismatched socks you only spot at lunchtime.

None of these slip-ups is likely to prove very costly, whether in terms of time, money or reputation. But the stakes grow higher in certain environments: a pharmacist getting a dosage wrong can take a life; a trader with "fat fingers" can cost his employer millions. It was with this idea in mind, just over 25 years ago, that a team of engineers and scientists at Siemens began to rethink one particular shop floor. The factory in Amberg, a small town near Nuremberg in Germany, made controllers – the boxes stuffed with circuit boards

and switches that act as brains for other factories. And it did a pretty good job of it, with customers from across countries and sectors, and a defects per million rate of 550.

But even that number felt too high, particularly given that a broken controller can quickly shut down a factory, costing its owners millions of euros per day in stopped production alone. So the team at Siemens began moving the factory towards greater automation, counting on computers to beat humans in the race for quality. In 1990, 25% of the shop floor was automated; today, it is 75%. And the defect rate has dropped sharply – to 11.5 per million. Output has increased 8.5 times while employee numbers and floor space have stayed steady.

Amberg has become something of a showcase for what automation can achieve; Angela Merkel visited in February and called it an example of Germany's wealth of "ideas and well-educated workers". But its real interest for managers, politicians and workers is what it can tell them

**BACK TO THE FUTURE:** The Amberg factory already combines the real and virtual worlds: products communicate with machines, and production processes are controlled by computers

BY  
**ROSE JACOBS  
IN AMBERG**  
🐦 @rosejacobs







about the future. The plant is Siemens's testing ground for a huge development in automation, where factories act less as the setting for a series of sequential steps and more as networks – networks in which assembly lines communicate not just with one another or within the company, but with systems elsewhere and – this is key – with the very products being produced. An automobile bonnet rolls up to the paint machine and tells it, “I should be white”; the next one sends the message to paint it blue.

In Germany, the engineers and academics working to create this “fourth industrial revolution” call it Industrie 4.0; in the US it's referred to as “the industrial internet”. General Electric describes it thus: “[It is] the tight integration of the physical and digital worlds . . . [enabling] companies to use sensors, software, machine-to-machine learning and other technologies to gather and analyse data from physical objects or other large data streams – and then use those analyses to manage operations.”

It is also, according to Volkmar Koch, a partner at the consultancy Strategy&, a chance for Europe to lead where in the past it has followed: whereas digitisation of the consumer world “is basically owned and shaped by US companies”,



no country or region yet dominates the transformation of industry.

You might expect a world built on sensors, software and machines to be devoid of humans. But in Amberg, the 10,000-square-metre shop floor is populated by 1,020 workers over three shifts. And their labour looks relatively physical: a young man lying on his back inches his way under an elegant blue-and-grey machine, as you would under a car needing repair; a woman nearby bends over a circuit board wielding tweezers. Yet other members of staff peer at screens, never touching the products rolling down glassed-in assembly lines.

“A digital future can frighten people,” says Günter Ziebell, production unit leader in Amberg. “But we complement automated tests with eye checks.” More to the point, this project has created demand for people with experience and creativity, who can improve the processes. So the management structure in Amberg has become very flat, allowing, for example, line workers to speak with the IT department directly rather than go through their bosses. Any employee can initiate a project that requires an investment of less than €10,000, and managers simply check every quarter that their teams are neither spending too much nor too little. Employees also earn bonuses when they suggest changes that are later implemented. The average employee earns an additional €1,000 per year this way, says Ziebell. He stresses the importance of schemes like this: “If a digital factory is being managed top-down, you wouldn't get many advantages from it.”

But even if increasing automation hasn't sapped jobs in Amberg, fast-growing efficiency means new plants might have been built to meet rising customer demand – and new positions to fill them – are now unnecessary. It is an issue that the Germans, at least, are attempting to address head-on, with plans under way to form a national-level working group for Industrie 4.0 that includes employee representatives as well as private businesses and industry bodies.

Dieter Wegener, Siemens's coordinator for Industrie 4.0, argues that companies aren't pushing these developments forward – consum-

**NO MISTAKES:** Robot arms weld bodywork at the Porche factory in Leipzig, Germany. Above right: Angela Merkel visiting the model shop floor





An automobile bonnet rolls up to the paint machine and tells it, “I should be white.” The next one arrives and sends the message to paint it blue.

ers are. We want customised products, we want them now, and we want them made efficiently, whether to bring down prices or preserve natural resources. This isn’t possible without networked production processes. As Mr Wegener says, “This is coming from you and me.” He also argues that Germany is at least two years ahead of the industrial internet community in the US “but we appear as if we’re following the Americans. The Americans are better at marketing.”

Roman Friedrich, a Strategy& expert on digitisation, is more cautious: “By definition, these changes are happening with such speed that you might not stay dominant for long. There are pockets of excellence and we see shifts in who’s ahead every year.”

And still, there are serious challenges to overcome, beyond what all of this might mean for workers. Standardisation is one; it doesn’t do much good for your soda bottle to signal to a bottling machine if they don’t speak the same language. A survey by the consultancy Accenture

found last year that a third of companies eager to embrace the industrial internet cited “consolidation of disparate data” as a grave concern. And that didn’t just mean data from along the supply chain, where different companies need to find similar standards, but also between departments in their own operations.

Security, inevitably, was another top worry. Technicians at Siemens’s headquarters in Munich have recently started trying to hack into the Amberg factory’s systems, as tests to protect against the real deal. To take full advantage of “smart factories”, every link in the supply chain must be secure – a huge challenge, and one with an inherent conundrum in that taking full advantage of “smart factories” also necessitates allowing a wide distribution of information; in Amberg, any employee can see the real-time data about each product on the assembly line. Companies must find a way to find a balance between transparency and security.

For Wegener, a third challenge is remembering the factors, such as efficiency, customisation and speed, that are driving the revolution (or evolution, as he prefers) – and making sure Big Data isn’t tapped simply for the sake of tapping Big Data. It has to add specific value to each operation. “There’s no benefit to making something smart,” he says, “without it making sense”. N

LENNART PREISS/SIEMENS, SEAN GALLUP/GETTY, PREVIOUS PAGE: MAX ETZOLD/SIEMENS

## INSIDE THE USA'S GORY CACHE OF SMUGGLED WILDLIFE

Killed for personal trophies or the black market, this repository for confiscated dead animals makes a gruesome day out

**WHEN VISITORS** to the National Wildlife Property Repository near Denver, United States, enter the 16,000-square-foot warehouse and see the full array of dead animals and products within, they tend to stop short, eyes wide, and utter something that suggests shock and awe. “I always like to see people’s faces when they turn the corner,” repository supervisor Coleen Schaefer tells a group of visitors on a warm day in February. She’s part of the office of law enforcement for the US Fish and Wildlife Service, which confiscated all of these products from the illegal wildlife trade and brought them to the Rocky Mountain Arsenal National Wildlife Refuge.

Outside the repository, snowcapped mountains rise up in the distance. Throughout the year, deer, coyotes, burrowing owls, bison and a few hundred other creatures roam the 15,000 acres. Once a United States Army weapons factory and then a manufacturing plant for pesticides and herbicides, the Rocky Mountain Arsenal underwent a massive environmental cleanup and was designated as a refuge in 1992. The cleanup finished in 2010.

Inside, visitors come face-to-face with more than 1.5 million specimens in the repository – the only one of its kind in the US. The sheer volume is, Schaefer says, “mind-boggling”. There are palettes of sea-turtle-skin boots, fur coats, taxidermied tigers, exotic birds, coral stolen from

the ocean and rows and rows of reptiles from Mexico and South America. There are curios – turtle paperweights, bookends made of zebra feet and footstools crafted from elephant feet. Tiny seahorses packed tightly into plastic bags will never reach their intended destination in Southeast Asia for use as traditional medicine. Shelves stock the heads of tigers and jaguars, their mouths open in perpetual roars. Schaefer motions to a small item on a table across from the heads. “Probably the saddest thing is the tiger foetus carved out of its mother, stuffed for someone to put on a shelf,” she says.

This place is gruesome. But that’s what it should be. The wildlife trade is booming and the future of the world’s elephants, rhinos, tigers and many other species are urgently threatened as a result. Trafficking dead or live animals has skyrocketed in the past decade with an estimated black market valued at around \$10bn, although an exact figure can’t be gauged because of its illicit nature. We examine luxurious scarves made from the underfur of Tibetan antelopes, which can sell for \$5,000, or more if embroidered. It is unbelievably soft. Making one of these *shahtoosh* scarves, as they’re called, requires about a dozen of the highly endangered antelope, according to Schaefer (other sources suggest about four).



**ENDANGERED SPECIES:** The National Wildlife Property Repository, above, is full of confiscated illegal wildlife products

BY  
**SENA CHRISTIAN**  
@SenaCChristian





The problem, according to Dan Rolince, assistant special agent with the US Fish and Wildlife Service in charge of the Mountain-Prairie Region, is that if you want to make a shawl out

“Probably the saddest thing is the tiger fetus carved out of its mother, to put on the shelf.”

of Tibetan antelope fur, “You can’t shear the antelope. You have to kill it.” The Convention on International Trade in Endangered Species of Wild Fauna and Flora lists Tibetan antelopes as “Appendix I” – the strictest classification – and prohibits any commercial trade.

The primary reason we can’t control the illegal wildlife trade is because resources are thin. Only about 200 special agents and wildlife inspectors handle wildlife crime in the US. The inspectors serve as the first line of defence against illegal items coming in and out of the country; it’s a job

Schaefer held for two years in the mid-2000s at the port of Los Angeles and Los Angeles International Airport. Sometimes US tourists, she says, innocently bring home illegal items, without proper paperwork or unaware their purchases aren’t allowed. But, in other cases, she and her colleagues found monkeys drugged for the journey and baby parrots in tube socks strapped to people’s bodies, their beaks bound by rubber bands. “If you can think of it, it’s probably been done,” Schaefer says of smuggling tricks.

We pass by a collection of traditional Chinese medicines and cosmetics: turtle jelly for various ailments, caviar for expensive face cream, tiger penis for an aphrodisiac. Schaefer tells us this last concoction is a high-demand item, mostly because it seems effective to buyers, who don’t know it’s often laced with Viagra. Some confiscated carcasses can be salvaged. In the facility’s National Eagle Repository, golden and bald eagles killed by unlawful shooting or trapping, electrocution, vehicle collisions or natural causes are collected, stored in a freezer and shipped to federally-recognised Native American tribes who use the feathers for ceremonial purposes. The repository has a backlog of 20,000 orders for those feathers.

Between 2010 and 2012 alone, poachers slaughtered 100,000 African elephants, according to a Colorado State University study. Elephants are being killed faster than they can reproduce; if left alone, the ivory craze could lead to the extinction of the world’s largest land mammal. On 30 May, in a Kenya national park, a beloved bull elephant named Satao – likely 50 years old and with tusks longer than six feet – was shot with a poisoned arrow so poachers could rip the ivory from his face.

In November 2013, the US federal government crushed six tons of illegal ivory seized over about 25 years at the Rocky Mountain Arsenal to symbolise a united global fight against poaching. The demolished ivory sits in 10 large bins at the repository. Schaefer allows several of us

to feel the shard – and then asks us to open our hands to prove we haven’t kept any pieces as souvenirs. Of all the endangered animals, whose future existence Schaefer is trying to ensure, one causes her the most heartache.

“It is the tiger. Because we are so close to losing them completely from the planet,” she says, choking up. She shakes her head, muttering that she doesn’t know where this burst of emotion has come from. “There are now more tigers in captivity than the wild. There are only 3,200 left in the wild, and you wonder, how much longer?”

KATE BROOKS/REDUX/EYEVINE

## WHAT MAKES BEANS SO TASTY? IT'S THE WALLPAPER GLUE

Cheap starch is used to bulk out foods marked “healthy” or “light”, but it’s not what we think – and it’s making us fat

ON MY KITCHEN counter is a shopping basket full of food. Ordinary things designed for people without much time to cook – an average modern family. There are sausages, yoghurt, fruit juice, ketchup, mayonnaise, a packet of sauce, soup, fish fingers, a frozen apple pie, flavoured milk, breakfast cereal, bread, healthy margarine and Quavers, a cheesy snack. And some dry dog food. The question is: what do all of them have in common?

The answer, deep down the lists of ingredients, is starch. White, powdery and tasteless, best known as a crucial tool when ironing a shirt. Though starch is present in every grain and plant, it doesn’t have much use in the traditional kitchen except as a thickener for sauces, in the form of cornflour or arrowroot. A bland glue usually derived from maize, cassava or potato, starch is nothing – you’d have thought – to be frightened of. But as we’ve learned, painfully, modern food manufacturers do not deserve automatic trust.

In her latest book, *Swallow This*, veteran food scandal investigator Joanna Blythman has shone her flashlight on the industry’s darkest technological secrets, from the refurbishing of “expired meat” to the tube-shaped egg for sandwich-making machines. One of the questions she asks is: why does modern processed

food come packed with so many things that aren’t in their home-cooked versions? Such as starch. And, just as importantly, why are we not told what “modified starch” – the most common designation on the labels, though there are also many other terms – actually is?

To the modern food and drink industry, starch is absolutely vital. It’s a key multifunction tool – the Swiss army knife of the food technology kitchen. Starch stiffens, texturises and stabilises. It can be creamy, succulent, gummy, chewy, gluey or crunchy. It can take the place of fat, eggs or butter. It adds glaze to pasta sauces, protects frozen food, binds liquids and extends shelf lives.

Most important of all, it is wonderfully cheap. The reason starch is in that pot of healthy “natural” yoghurt is primarily to raise its profit margin. Real yoghurt costs a lot to make – and shoppers are prepared to pay a premium price for it. Usually it takes 100 litres of milk to make just 40 of proper Greek yoghurt. But adding starch, Blythman found, means that 100 litres of milk can be stretched to produce almost the same volume of yoghurt. And, the yoghurt can still, technically, be called “low fat”.

Starch manufacturers quite brazenly boast about this – “Replace expensive ingredients with no-compromise alternatives to reduce cost,

**UGLY TRUTH:**  
Most canned beans contain either cornflour or modified maize starch and food manufacturers often buy pre-formed egg tubes, so that each egg slice is identical

BY  
**ALEX RENTON**  
@axrenton



not consumer appeal” – runs the copy in one trade brochure. Starch is a filler that will stand in for anything that, however natural or necessary, rings alarm bells with the diet-conscious consumer. So it’s a must for manufacturers of “healthy” and “light” products. It’s why Hellmann’s Light Mayonnaise – a substance you’d expect to contain just oil, egg, vinegar and some seasoning – has “modified maize starch” on its back-of-the-jar list. Quite why there is starch – and “esters of wood rosins” in the best-selling Oasis fruit drinks, no one could tell me. Even the customer care staff at Coca-Cola, Oasis’s makers, didn’t know – they promised to take the question to a scientific adviser and get back to me. They didn’t.

I asked Unilever, manufacturer of Hellmann’s, why there was starch in the Hellmann’s Light. John in customer engagement was frank: “It’s there for the texture, it makes it come out of the bottle more sticky and less runny . . . . The regular Hellmann’s mayonnaise is fattier and that makes the consistency naturally.” Consistency is one of the secrets of starch’s charm: it’s why you use starch as wallpaper glue. After all, starch is ultimately bonded glucose molecules, which are soluble in water but come together when semi-dry.

In a supermarket aisle full of taste-enhancers,

antibiotic-laced meat and crude-oil-derived colourings, bland old plant-derived starch sounds like, as Blythman puts it, “the least of our worries”. But it is not.

For a start, she explains, the starch you see in most manufactured foods is nothing like the carbohydrate you might use to thicken a gravy. “Modified starch” may have been altered in all manner of different ways – oxidised, gelatinised, converted with enzymes, bleached, broken down with acids, bonded with phosphates or even, by toasting it, turned into a sugar.

“Modified starch is not something you could cook up in any home kitchen,” says Blythman. “For example, to prevent tomato sauce spilling off a factory pizza during baking, a modified starch is often treated with a chlorine solution and added to the topping.” But these things do not have to be spelled out. Always chasing the “clean label” to reassure customers, food companies dodge European regulation and use unthreatening words like “soluble fibre” or “dextrin” or “stabiliser” to describe starches that may have been modified with what would otherwise sound like toxic chemicals.

During her research, Blythman even found one starch company selling the product in a way that seems plain fraudulent: “[It] cleverly allows food manufacturers to remove some butter content from products and still use the label ‘all butter’, which highlights to consumers that the food is a decadent product, the finish of the product would retain the same ‘shortness’ and buttery richness and mouth-feel as the full-fat equivalent”.

Although Blythman makes the point that starch often does its work in products that have had fats removed to make them “light”, starch breaks down into simple sugars, adding to the sweetness load in processed food that is probably the key to the rich world’s soaring obesity levels.

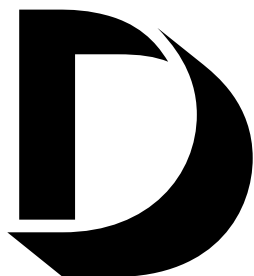
How far all this is removed from what we think of as food is revealed by the manufacturer who told Blythman how to make a Spanish flan (or crème caramel): “Your base starch serves as a viscosifier, which establishes your food’s structure . . . . Co-texturisers [another set of starches] fine-tune texture properties. They bring out the more subtle differences in texture that we experience in our mouths while eating, such as mouthcoating [creminess] and meltaway [lusciousness].”

Huge savings are available. Starch can stand in for 30% of the cream in a ready-meal spaghetti carbonara, or for 25% of the tomatoes in a tomato sauce. As Blythman concludes, “No wonder food manufacturers are glued to the stuff.”

Joanna Blythman’s *‘Swallow This’* is published by 4th Estate in the UK

OLI SCARFF/GETTY





## DOWNTIME

### **007 SEDUCES THE ETERNAL CITY – AND HIS FIRST BOND WOMAN**

As the secret agent's 24th mission starts filming in Rome, the streets seethe with gossip about Popes, mafiosi and . . . actors

**LIKE MANY** A conquering hero before him, James Bond has come to Rome. Daniel Craig is here to film *Spectre*, the 24th Bond movie, directed by Sam Mendes. After months of secrecy, street after street is being cordoned off, to shoot *Spectre*'s spectacular car chases through some of the most beautiful and ancient streets in the world.

Last week, Daniel Craig's metallic grey new supercar, the Aston Martin DB10, raced against David Bautista, *Spectre* henchman, and real life six-times former world heavy weight boxing champion, passing the Forum and the Colosseum, where Julius Caesar's charioteers sped him towards Senatorial meetings. The Corso Vittorio Emanuele, Rome's main thoroughfare and final express bus route for breathless pilgrims, going from Termini Station to the very heart of the Catholic Church, St Peter's Basilica, was cordoned off for hours over night, as the cars raced at 200km an hour at 11.30pm, stunt drivers in iron cages on the cars' roofs, fighting their scripted battles.

Although onlookers were banned from the set,

the inhabitants of the various palazzi that line the Corso took pictures on their phones from their balconies. Bond even suffered a minor injury – Craig hit his head on the roof of his car when it bumped over one of Rome's notoriously uneven Sampietrini cobble stones. Luckily, the on-set doctor pronounced him unhurt.

The word in boho-chic Trastevere – once Rome's medieval slum, linked to the city's Historic Centre by the 15th-century Ponte Sisto footbridge – is that the final stage of the chase will be along the slimy cobblestones of the Tiber's quayside, towards the Ponte Sisto's one-car-wide archway – and that at least one of the cars will end up in the river. Bond is also predicted to parachute from a helicopter on to the Castel Sant'Angelo, the vast tomb of the Emperor Hadrian on the banks of the Tiber, converted into a fortress by the medieval Popes.

Presumably Bond won't be allowed to use the secret passage said to link the Papal stronghold to the Pope's Vatican bedroom; although perhaps Ralph Fiennes, who has been cast as M, will be

**GREAT BEAUTIES:** Monica Bellucci, who at 50 is the oldest ever Bond 'girl', in front of the Roman skyline with 007 actor Daniel Craig

BY  
**CHARLOTTE EAGAR**  
IN ROME  
[@charlotteagari](#)





# DOWNTIME

using it as his Rome office, where even now Q is perfecting an exploding gelato.

"It's a massive production. Bond is not a tourist in Rome," shrugged someone involved in the Italian co-production, unable to give their name. Due to the levels of secrecy shrouding the Bond franchise, which would impress even MI6, the production team have all had to sign confidentiality agreements.

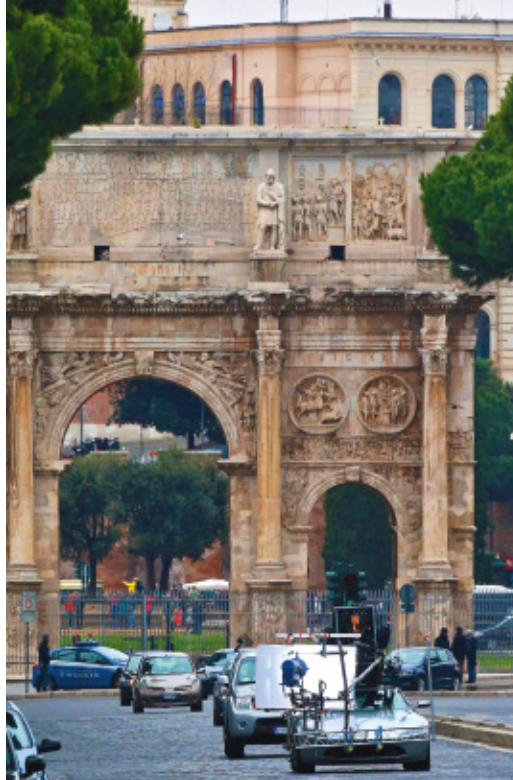
"Rome is full of a beautiful, ancient monuments. It would be awful if they broke anything. And they are shooting for four weeks! When Woody Allen shot his film in August, Rome was empty. And Italian bureaucracy is terrible! It would be much easier if they were shooting in the Vatican. They are much more efficient there."

There is even rumoured to be a real villain for the Bond crew to combat. According to sources in the Italian acting industry, the Bond production has been threatened by the notorious Casamonica, a Romanian gypsy-origin mafia, relatively new on the Roman scene. "The Casamonica can shut a production down like that," said a Roman filmmaker, clicking his fingers.

The beauty is supplied by Italian Monica Bellucci, at 50, the oldest actress ever to play a Bond girl; her home town of Citta di Castello, near Perugia, was ruled by the Borgia Popes. Bellucci, whose character is called Lucia Sciarra, described Craig's Bond as "a hero, but human. A real man".

In Piazza Trilussa, where the Ponte Sisto disgorges into Trastevere, the café workers and newsagents are resigned to the square being shut for three days to film the riverside car chase. "We're going to have two huge cranes in the Piazza to pull the cars out," said the man at the till in Mechanissimo, a café a few yards from the bridge. "We're being paid not to come to work." But it'll take a lot more to impress the man at Mechanissimo than Daniel Craig. "Meryl Streep came into our café the other day," he said.

"Roman people are quite cynical and indifferent. Bond arriving on a bridge won't change Rome. But for him it's like moving in a china shop," said Alain Elkann, former advisor to Ita-



**LOCAL SIGHTSEEING:** Rome's roads are cleared as cast and crew film in front of the fourth-century Arch of Constantine

ly's Minister of Culture, novelist and father of the Agnelli dynasty Fiat heir, Yako Elkann. "Rome is a millefeuille, built on layers of time."

It's hard not to be apathetic when you have seen some of the greatest heroes and villains of history and have survived Attila the Hun, Hitler and Napoleon. Rome was sacked by Visigoths in AD410 and Vandals (who gave us the word "vandalism") in AD455, Ostrogoths in AD546, the Normans in 1084 and the Holy Roman Emperor Charles V's mutinous troops in 1527.

Julius Caesar met his death just 150 yards from the Ponte Sisto, in the ancient Theatre of Pompey, which has been a residential street since medieval times. Papal bastard and warlord Cesare Borgia had his victims hurled into the Tiber, along whose banks Bond's Cinquecento will chase. A temple still stands to Hercules, the original action hero, just down the river, by busy traffic lights and the 2,200-year-old Ponte Rotto "Broken Bridge".

But a Bond movie – a huge, international, advertisement for the city – is still something. The glory days are gone for Cinecittà, the film studios outside Rome, where Richard Burton and Elizabeth Taylor shot *Cleopatra*; Gregory Peck and Audrey Hepburn *Roman Holiday*; and when people could make a living as *comparsi*, professional extras. Although *Ben Hur* is currently being shot at Cinecittà, HBO's set of Rome now hosts the weddings of Russian oligarchs and there are plans to turn Cinecittà into a film-themed park.

Bond coming to Rome is more like *La Dolce*

ROBINO SALVATORE/GC. PREVIOUS PAGE: VITTORIO ZUNINO CELOTTO/GETTY



*Vita*, where Marcello Mastroianni's gossip writer tries to be blasé about Anita Ekberg, but is bedazzled by the charisma of her celebrity.

"I live across town," said Benedict Bucciarelli, who was working as an extra on the Bond film. "I've worked as an extra all my life. More than 200 films. Two days ago I was in a scene at the Via San Gregorio, near the Colosseum. And tonight I rented my Citroën to the production for €100. It took me over three hours to get here by bus, but it was an adventure!" He wasn't saying if he was appearing in any more scenes – that secrecy again.

The notoriously bureaucratic Roman authorities have been surprisingly helpful about granting permits, a fact which would amaze anyone who'd ever tried to pay their gas bill in Rome. The Roman parliament even put off passing a law banning potentially working guns from a film set until December.

Yet, when the crew asked to film at the Quattro Fontane crossroads, the apex of Roman's political centre, the Quirinale hill, permission was refused. The excuse given was the danger that 007 and the chaos that follows in his wake would somehow damage the four 16th-century fountains, each a tree-lined alcove, sculpted in tufa, in which loll the goddesses Juno and Diana, and the river Gods Tiber and Aniene, each above a gurgling water trough.

"They're not so fragile," snorted their restorer, Carlo Usai, who has spent the last months cleaning the stonework, at a cost of €320,000, paid for by Fendi, while dodging traffic. He pointed to the cars whizzing by. "Apparently, Bond was just going to drive up one side and down the other. The real problem is that this is the busiest crossroads in Rome. And the Parliament is next door. The MPs didn't want the bother of shutting off the traffic."

"Unfortunately, since the President of the Italian Republic daily crosses the Quattro Fontane area, it will not be possible to shoot there due to issues of security," said Lucia Ritrovato of the Cultural Department of Rome. "Every other permission has been granted. We are very enthusiastic."

The film crew has instead been seen scouting the rather less-frequented Via Appia Antica, Rome's ivy-strewn ancient artery to the south. According to an Italian film source, Bond 24 was originally due to shoot for rather longer in Rome. "The production company said they couldn't be bothered to deal with all the problems," said the Roman film-maker who warned about Casamonica mafia. "They are just going to shoot a few key locations and then do the rest in a studio." N

## ADVERTISEMENT



**Gerry Wait**  
Archaeologist

## 21st-century professionals

### MINING FOR HERITAGE

**W**orking on a goldmine proposal in Senegal, a colleague saw something on the ground and asked, "Do we need to consider archaeology?" At that point neither the mining company nor the Government regulatory agency were expecting anything like an environmental impact assessment to be done at an international standard.

Gerry Wait, who is on the Chartered Institute for Archaeologists Board of Directors, explained that Senegal had only one archaeologist working in a regulatory capacity. He didn't have the clout to get his government colleagues to do something as distracting from mining as archaeology. However, mining companies do recognise the need to demonstrate corporate social responsibility.

"None of us really knew where it would lead. It had to be done slowly and gently to reassure everyone that the mine was not at risk. The first step was a walk-over: a handful of people for a handful of days covering 25 square km. It demonstrated visible archaeological sites on the surface."

The next step was a more detailed surface survey: many archaeologists walking over the whole landscape collecting artefacts and marking out the sites. "You begin to build an understanding of the landscapes and types of activities that might have occurred there, but it doesn't tell you the full story." That led to the third step, excavations at a sample of the sites.

"The mine is now in operation, and we were able to create a narrative chronology for Eastern Senegal over about 2,500 years. The IFAN Institute in Dakar has mounted exhibitions of the materials."

People around the world have become much more aware of elements of their own heritage and archaeological remains being part of it. For Gerry, "That's a 21st century take on what have been two standalone mentalities of archaeology and ethnography for many years."

**By Andy Friedman [parnglobal.com](http://parnglobal.com)**





## **'AS A WRITER, IF YOU DON'T GET WOMEN, YOU'VE GOT NO ONE.'**

Nick Hornby's new novel, *Funny Girl*, shows us the irruption of race, class and sex into the BBC of the 1960s

"YOU DON'T WALK into lampposts when you're reading literary novels." So wrote Nick Hornby in his "What I've Been Reading" column for *Believer* magazine and although he was praising Dennis Lehane's *Mystic River* for being so gripping you might indeed walk into one of those lampposts, he could have been talking about his own bestselling books.

*Funny Girl*, his new novel about a fictional BBC comedy series in the 1960s, is not a literary novel.

"What it was really about was people not having sex when they wanted it. A lot of British comedy was about that."

It skips along as effortlessly as a stone skimmed over water, and though the stakes are not of the revenge-murder sort in Lehane's book, it's hard to put down. Think Jane Austen and unrequited love, if Austen's characters were worried about their show being renewed.

Hornby laughs when I tell him that three generations of women in my family love his books. "If you write fiction and the fiction isn't about people killing people, then if you don't get women,

you've got no one," he says. "Which is funny 'cause I was supposed to be the guy's writer."

The books that got him pegged as such – *High Fidelity* and *About a Boy* – were both successfully adapted for film and appealed to female readers perhaps precisely because of their guy-ness. When I first read *High Fidelity* (1995), the story of a hapless record store owner who sets out to unravel the mystery of why women keep dumping him, I thought, "This should not fall into the hands of women."

"And of course they all ended up reading it for exactly that reason," he says.

We are talking in the green room at San Francisco's Nourse Theater, where the 57-year-old author and screenwriter has come to read from his new book and answer questions as part of the City Arts and Lecture program, and to raise money for the non-profit *Believer*. It's the end of a busy six months for him in which he has been doing promotion for *Wild*, the film he adapted from Cheryl Strayed's memoir, as well as for *Brooklyn*, his adaptation of Colm Tóibín's novel, which was sold to Fox Searchlight for \$9m (£7.9m), and then also for *Funny Girl*, his seventh novel, which entered the *New York Times* bestseller list at number nine the night we met.

There have been a few bumps along the way. A

**FUNNY GUY:**  
Nick Hornby,  
British author  
of such novels  
and film scripts  
as *High Fidelity*  
and *An Education*

BY  
**SEAN ELDER**  
@seankelder





TSA agent in Toronto told him he couldn't enter the country to do a book tour without a green card (the agent was wrong, but Hornby missed his flight and an event in Chicago) and then his wife, back in London with the kids, got sick. But Hornby seems pretty unflappable. He listens to my questions and then attempts to answer them, as opposed to that media-training trick of leaping over what was asked to say something "on-message", and when he looks at you, you feel really seen. This is a man who likes people.

*Funny Girl* is about collaboration – a team of

creative people trying to make a domestic comedy better than it has to be. The funny girl of the title, Barbara Parker, comes to London from Blackpool (where she has just been crowned the seaside town's beauty queen) to pursue her dream of being a comedienne of Lucille Ball's stature. Here she is describing a popular farce of the day: "It was full of young women in their underwear and lustful husbands caught with their trousers down, and their awful, joyless wives. What it was really about was people not having sex when they wanted it. A lot of British comedy was about that, Barbara had noticed. People always got stopped before they'd done it, rather than found out afterwards. It depressed her."

England then was finally getting over the traumas of the Second World War, and Hornby had already immersed himself in the period while writing the script for 2009's *An Education* (which gained him an Academy Award nomination). He talks with great enthusiasm about the "hilariously well-researched" books of historian David Kynaston. "What you end up with is this, I find, incredibly moving portrait of a country changing month by month, using 1945 as a kind of year zero," he says. "There's not much left of London; the structure's gone, our economy is in ruins. It wasn't really until 1960 that we started to pick ourselves up . . . And the sixties were the first time we all had televisions."

British TV was changing as some notable writers pushed against boundaries, bringing in references to race, class and, yes, sex. (Ray Galton and Alan Simpson, creators of *Steptoe and Son*, which Norman Lear repurposed as *Sanford and Son* in the US, were models for *Funny Girl*'s writing duo). But there was no British equivalent to Ball's *Lucy* shows, or for that matter American women like Marlo Thomas or Mary Tyler Moore. "Our comedy was actually pretty blokeish," says Hornby. "Even in something like Monty Python, there's a woman who runs around in a bikini sometimes and the guys dressed as women. There were no women invited to join the club." Making Barbara, who rechristens herself Sophie Straw, a national sensation "was my little bit of alternative reality."

How he came to be regarded, despite his initial reputation as a guy's writer, as instead a go-to guy for writing women's roles is a testament to his empathetic skills. He's had women protagonists in his novels (most notably the 2001 marriage comedy *How To Be Good*) and he was the one who brought Amanda Posey, his wife and an independent film producer, the short memoir by Lynn Barber that Posey made into *An Education*. (Posey also produced *Brooklyn* and *Fever Pitch*, the film of Hornby's memoir about being a rabid

# DOWNTIME

Arsenal fan.) When someone in the Nourse audience asks him about writing women, he quotes one of his favourite authors, Anne Tyler, who was asked how she writes such good men: “The moment you write about someone who isn’t yourself it gets difficult.”

Still, his best known books are about men, or boy-men, having to grow up. *High Fidelity* and

“When I first read *High Fidelity*, I thought, ‘This should not fall into the hands of women.’”

*About a Boy* are perhaps popular with women because they show men struggling to be better, and reassure them that underneath the sports talk and record cataloguing, there’s a compassionate person. “Both of those novels were written after the birth of my son, who was born quite severely disabled,” he says speaking of Danny, now 21, who was diagnosed as severely autistic at an early age. “I don’t think it was something I was directly addressing in the material. I think possibly it gave me more of a moralist’s eye than I might otherwise have had. There was a sense of, ‘Come on, guys: You’ve got it easy. Let’s pick it up a bit.’”

Alarmed by the lack of educational resources for autistic children in the U.K., Hornby helped establish a special school in London called Tree-

House, which now has about 80 students, and he remains active in the charity Ambitious About Autism. (The 2000 short story anthology he edited, *Speaking with the Angel*, featuring stories by Helen Fielding, Zadie Smith and Robert Harris, raised money for the school.) He has been candid about the difficulties of raising a severely disabled child (Danny has round-the-clock care) and the effects it had on his marriage to Danny’s mother, Virginia Bovell, whom he divorced. “Having Danny is like the stress of having a newborn permanently,” he told *The Guardian* in 2000, “that kind of disruption with a newborn’s first weeks, and there’s no change to that.”

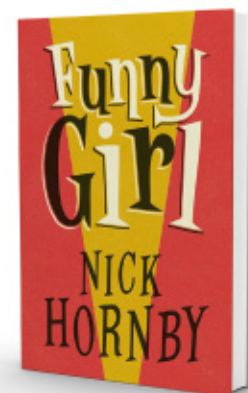
“It actually becomes very awkward trying to keep things private,” he tells me. “You end up being dishonest when you’re talking about work or talking about anything. People like you might ask how my son is, ‘Oh, he’s 15? He’s got to be chasing girls . . .’ And at that point you either say, ‘Yeah, he’s chasing girls,’ or you say, ‘Look, he’s not chasing girls.’ He’s not going to be chasing girls.” So once I started talking about that it seemed the best thing to do was to put that to some use” – which in his case meant helping establish TreeHouse but also

raising awareness about autism through interviews and the anthology.

His handler comes in with piles of *Funny Girl*: time to start signing. We talk a bit about Charles Dickens, who keeps popping up in *Ten Years in the Tub*, a collection of ten years of Hornby’s *Believer* book column. “Here’s a guy who was writing two of the greatest novels in the English language at the same time because he had mouths to feed,” he says, scribbling his signature on to the frontispiece of book after book. “He was a magazine editor, he was a social reformer – there’s a lot more to the guy than writing. Also just that thing of being an immensely popular novelist and in his lifetime he couldn’t buy a review of *Bleak House* for example; people thought it was rubbish. And the idea that he could survive that and become something else is a very useful story.”

To say Dickens’s critics missed the point is like saying Columbus missed India: it’s facile to make that judgment from this remove. They thought he wrote so much because it was easy (ignoring the amount of research he did and the 13,000 characters he created) just as many people read Hornby and say, “I could do that!” When asked about *Slam* (2007), his ostensible young adult novel, he tells the crowd, “It’s always been a dream for me to write the most complicated book imaginable with the simplest language.”

Which could be why he draws a crowd.



**GOOD IMPRESSIONS:** *Funny Girl*, Hornby’s latest novel, pays tribute to the golden age of light entertainment. Left: John Cusack and Jack Black in *High Fidelity*



MOVIESTORE COLLECTION/REX

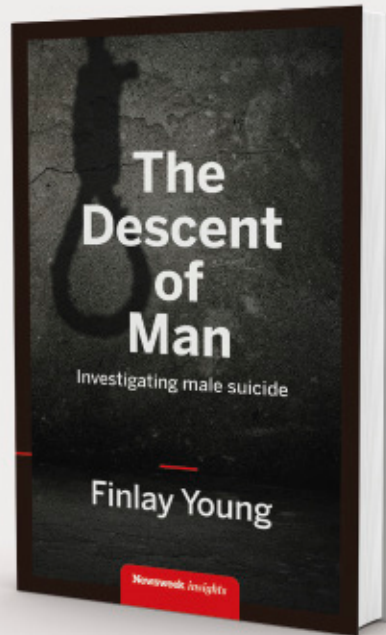


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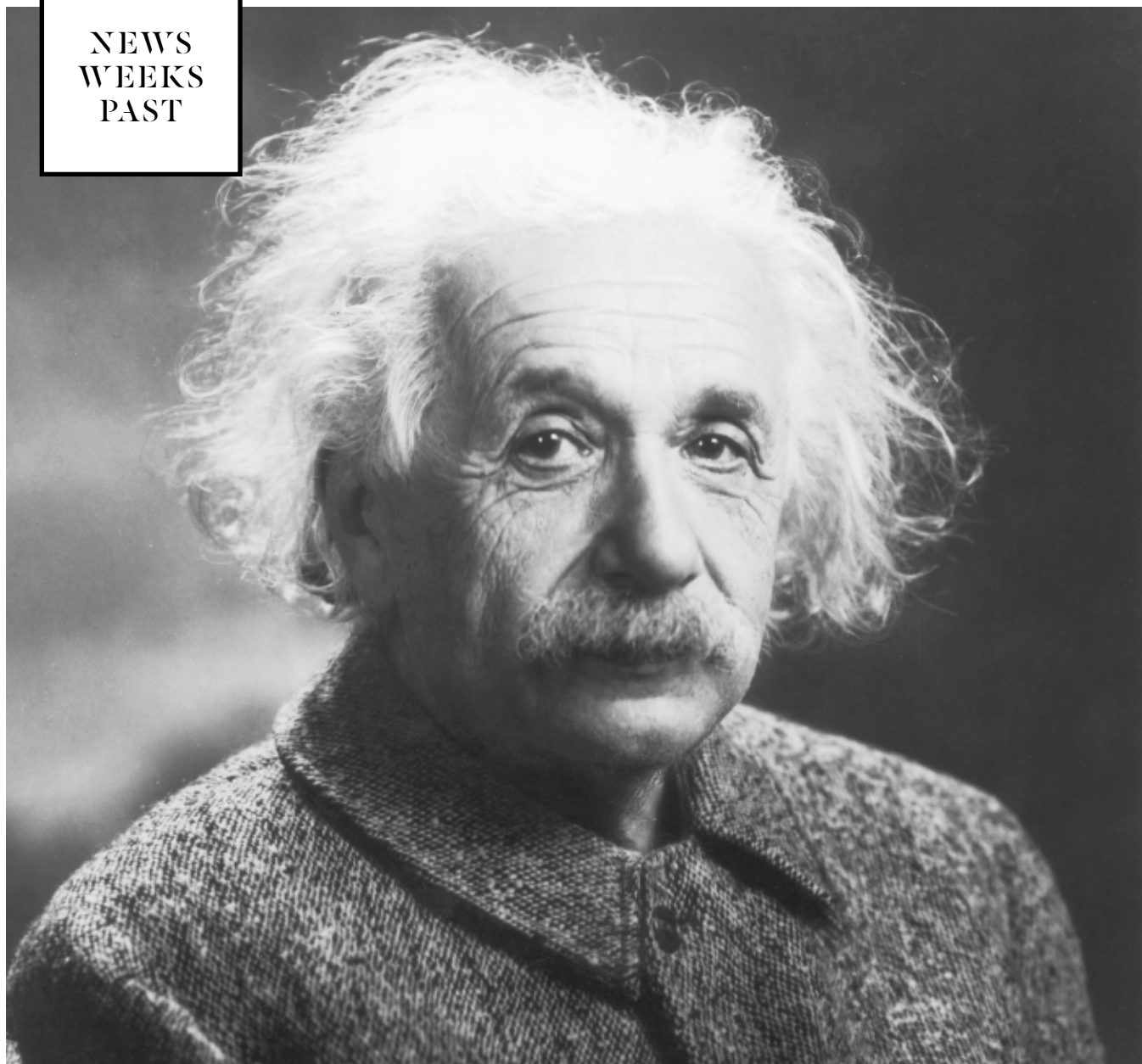
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## 10 March 1947 • Godfather of the atomic age

“His daily efforts are a trail-blazing adventure of mathematical imagination in which few living minds can join. But the results of his earlier explorations have changed the world, and Einstein is the almost legendary symbol of that change. Thousands of scientists played a part in releasing the energy of the atom’s nucleus. Of them all, Einstein stands out in historic perspective as the godfather of the atomic age.

Without his equation experimenters might still

have stumbled upon the fission of uranium, but it is doubtful if they would have realized its significance in terms of energy, or of bombs. Signpost for every scientist working on the transmutation of atoms, it reads:  $E=MC^2$ . Multiply a mass by the speed of light, and again by the speed of light, and you have its enormous potential yield of energy. The equation can also be written in this fashion: One bomb equals Hiroshima. Or one rocket equals Manhattan.







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